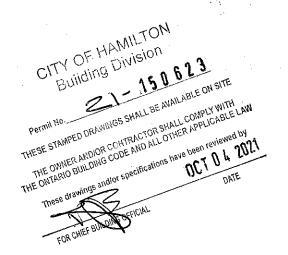


Products					
PlotID	Length	Product	Plies	Net Qty	
J1	20-00-00	11 7/8" NI-40x	1	8	
J1DJ	20-00-00	11 7/8" NI-40x	2	4	
J2	18-00-00	11 7/8" NI-40x	1	2	
J3	6-00-00	11 7/8" NI-40x	1	4	
J4	4-00-00	11 7/8" NI-40x	1.	1	
J5	2-00-00	11 7/8" NI-40x	1	2	
J6	20-00-00	11 7/8" NI-80	1	61	
B4	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B2	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	
В3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	

	Connector Summary						
Qty	Manuf	Product					
3	H1	IUS2.56/11.88					
11	H1	IUS2.56/11.88					
2	H1	IUS2.56/11.88					
2	H1	IUS2.56/11.88					
2	H1	IUS2.56/11.88					
1	H2	HUS1.81/10					



DATE: 2021-03-18

1st FLOOR



FROM PLAN DATED: 2021/2

**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS PH4

**MODEL:** SPRINGFIELD 3

**ELEVATION: 1** 

LOT:

CITY: HAMILTON

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

# NOTES:

REFER TO THE **NORDIC INSTALLATION**GUIDE FOR PROPER STORAGE AND
INSTALLATION.

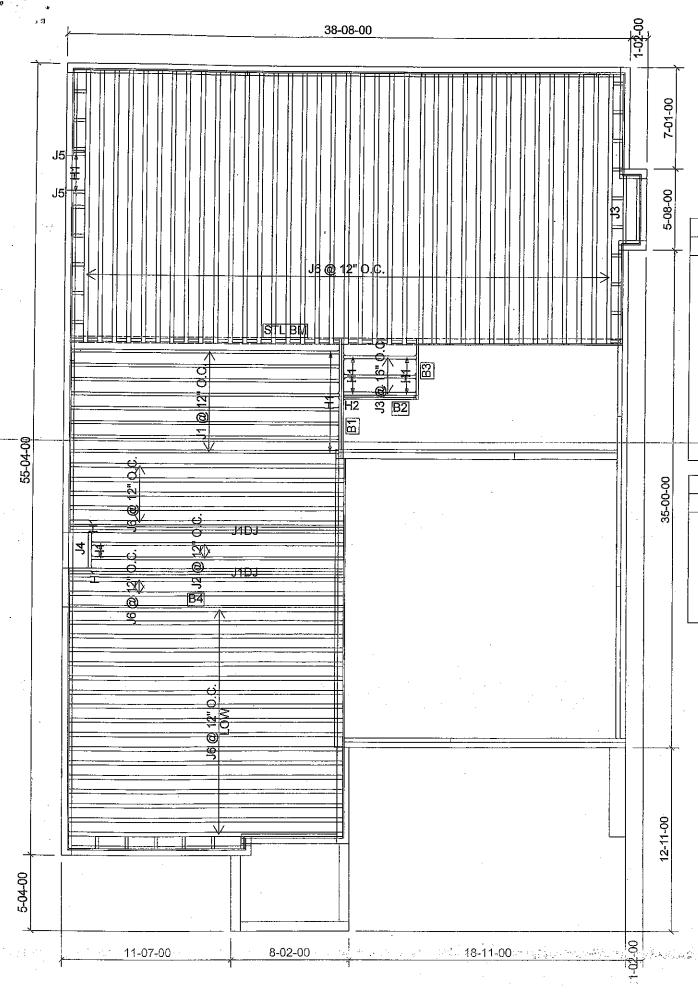
REQ'D UNDER INTERIOR UNIFORM LOAD
BEARING WALLS. MULTIPLE SQUASH
BLOCKS REQ'D UNDER CONCENTRATED
LOADS. SEE FIGURE 1. CANTILEVERED
JOISTS INCLUDING CANT' OVER BRICK RE
I-JOIST BLOCKING ALONG BEARING AND
RIMBOARD CLOSURE AT ENDS. SEE
FIGURES 4 & 5 FOR REINFORCEMENT
REQUIREMENTS. FOR HOLES INCLUDING
DUCT CHASE AND FIELD CUT OPENINGS
SEE FIGURE 7, TABLES 1 & 2. CERAMIC TI
APPLICATION AS PER O.B.C 9.30.6.

# LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft<sup>2</sup>

**SUBFLOOR: 3/4" GLUED AND NAILED** 

等一致"关"。 化邻氯酸盐 不高級



	Products					
PlotID	Length	Product	Plies	Net Qty		
J1	20-00-00	11 7/8" NI-40x	1	8		
J1DJ	20-00-00	11 7/8" NI-40x	2	4		
J2	18-00-00	11 7/8" NI-40x	1	2		
J3	6-00-00	11 7/8" NI-40x	1	4		
J4	4-00-00	11 7/8" Ni-40x	1	1		
J5 -	2-00-00	11 7/8" NI-40x	1	2		
J6	20-00-00	11 7/8" NI-80	1	61		
B4	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2		
B2	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		
			<del></del>			

Connector Summary					
Qty	Manuf	Product			
3	H1	IUS2.56/11.88			
11	·H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
1	H2	HUS1.81/10			



**BUILDER: GREENPARK HOMES** 

**SITE:** RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION:** 1

LOT:

CITY: HAMILTON

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

# NOTES:

REFER TO THE **NORDIC INSTALLATION**GUIDE FOR PROPER STORAGE AND
INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK FIJOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC APPLICATION AS PER O.B.C 9.30.6.

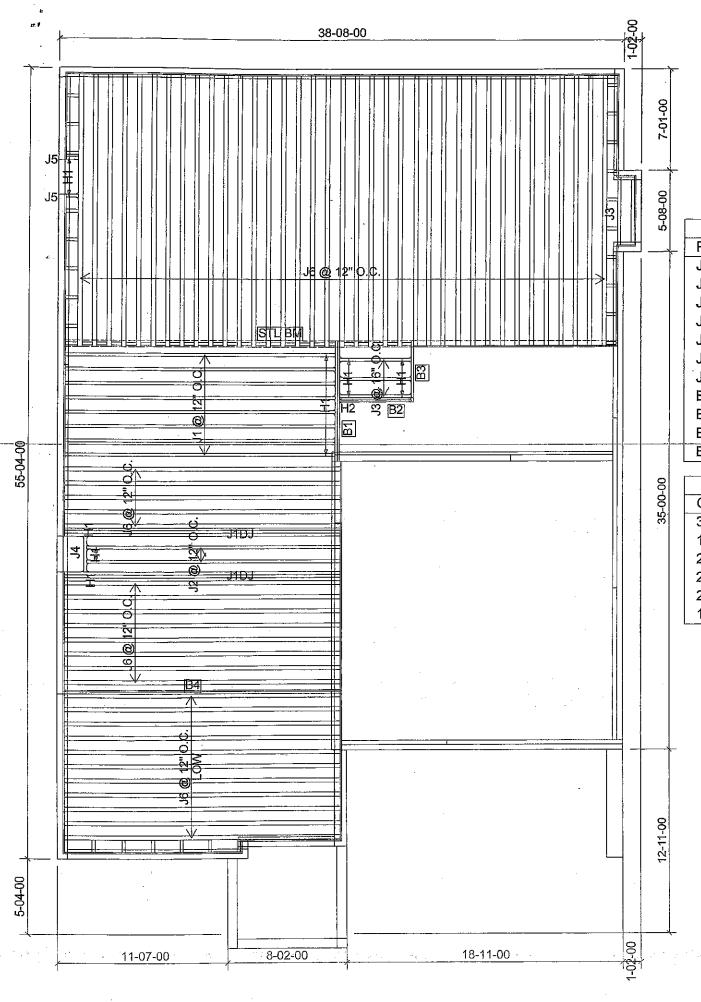
# LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft<sup>2</sup>

**SUBFLOOR:** 3/4" GLUED AND NAILED

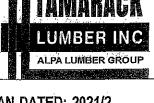
**DATE**: 2021-03-18

1st FLOOR OPT GUEST SUITE



Products						
PlotID	Length	Product	Plies	Net Qty		
J1	20-00-00	11 7/8" Ni-40x	1	8		
J1DJ	20-00-00	11 7/8" NI-40x	2	4		
J2	18-00-00	11 7/8" NI-40x	1	2		
J3	6-00-00	11 7/8" NI-40x	1	4		
J4	4-00-00	11 7/8" NI-40x	1	1		
J5	2-00-00	11 7/8" NI-40x	1	2		
J6	20-00-00	11 7/8" NI-80	1	61		
B4	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2		
B2	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		

Connector Summary				
Qty	Manuf	Product		
3	H1	IUS2.56/11.88		
11	H1	IUS2.56/11.88		
2	H1	IUS2.56/11.88		
2	H1	IUS2.56/11.88		
2.	H1	IUS2.56/11.88		
1	H2	HUS1.81/10		



**BUILDER:** GREENPARK HOMES

**SITE:** RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION**: 2

LOT:

CITY: HAMILTON

**SALESMAN:** RICK DICIANO

DESIGNER: AJ REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION**GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK FIJOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC APPLICATION AS PER O.B.C 9.30.6.

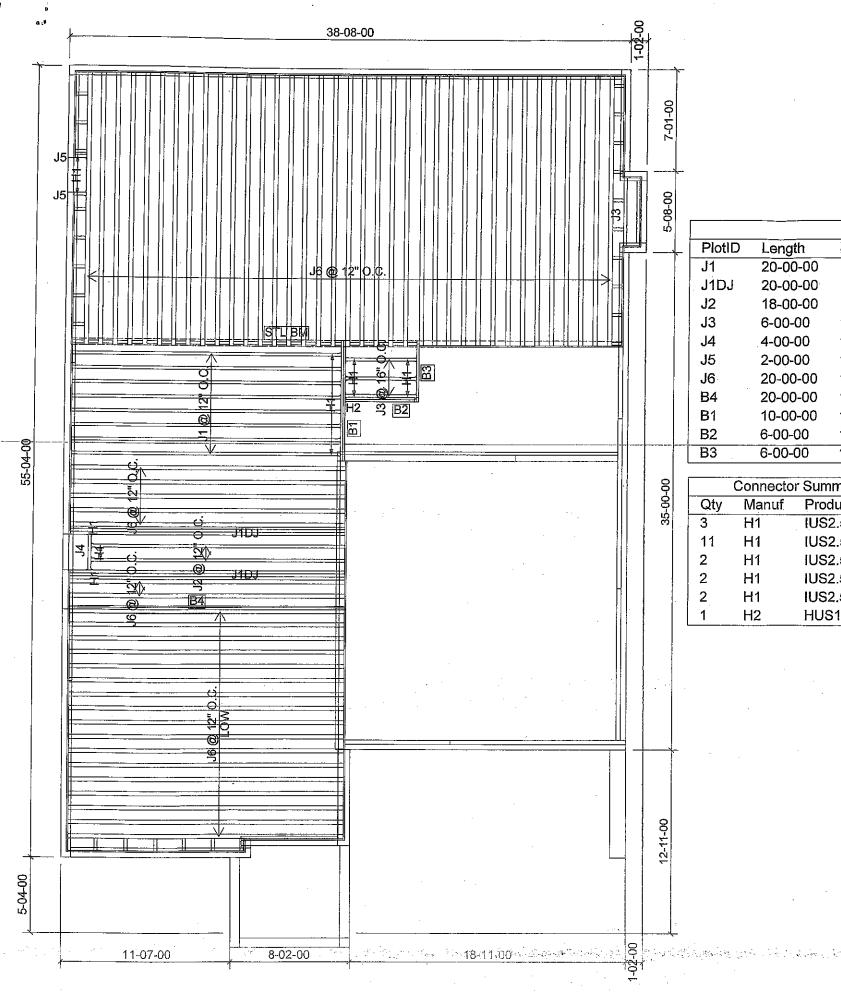
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft<sup>2</sup>

1st FLOOR

**DATE: 2021-03-18** 

SUBFLOOR: 3/4" GLUED AND NAILED



•	Products					
PlotID	Length	Product	Plies	Net Qty		
J1	20-00-00	11 7/8" NI-40x	1	8		
J1DJ	20-00-00	11 7/8" NI-40x	2	4		
J2	18-00-00	11 7/8" NI-40x	1	2		
J3	6-00-00	11 7/8" NI-40x	1	4		
J4	4-00-00	11 7/8" NI-40x	1	1		
J5	2-00-00	11 7/8" NI-40x	1	2		
J6	20-00-00	11 7/8" NI-80	1	61		
B4	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2		
B2	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1		

	Connector Summary				
Qty	Manuf	Product			
3	H1	IUS2.56/11.88			
11	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
2	H1	IUS2.56/11.88			
1	H2	HUS1.81/10			



**BUILDER:** GREENPARK HOMES

**SITE:** RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION: 2** 

LOT:

**CITY:** HAMILTON

SALESMAN: RICK DICIANO

DESIGNER: AJ **REVISION:** 

# NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH **BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK R I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC 1 APPLICATION AS PER O.B.C 9.30.6.

# LOADING:

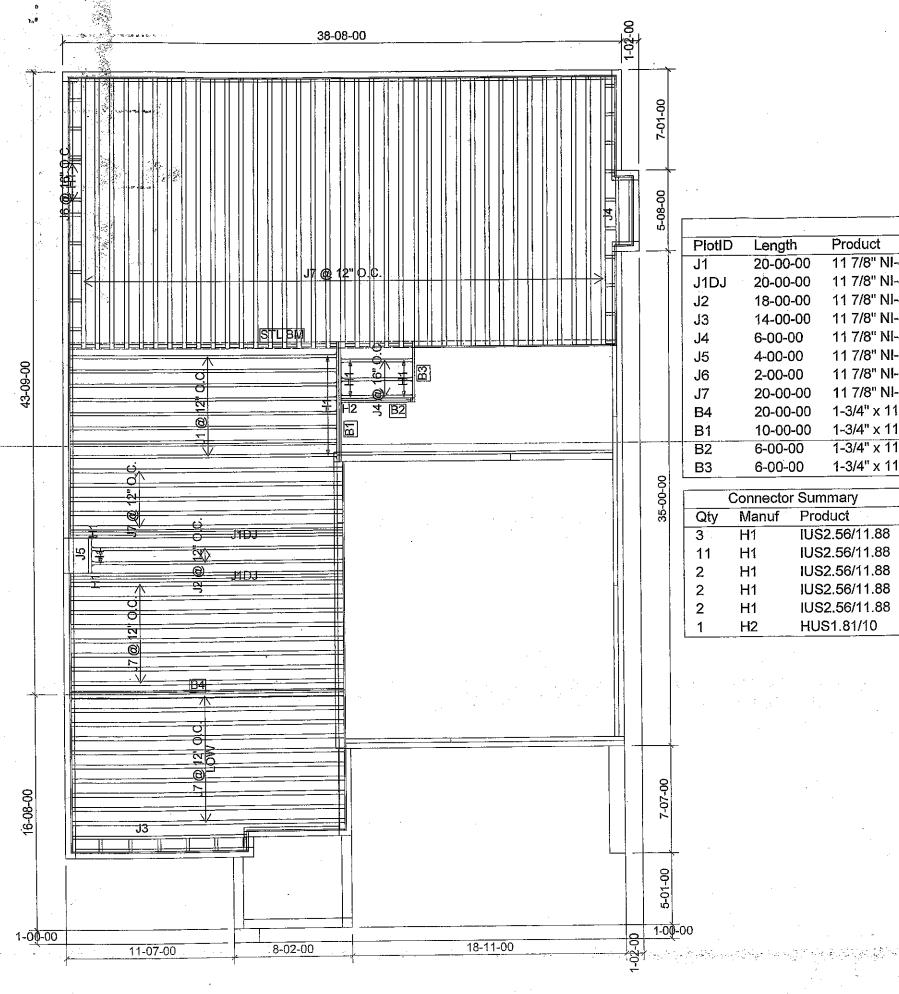
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft2

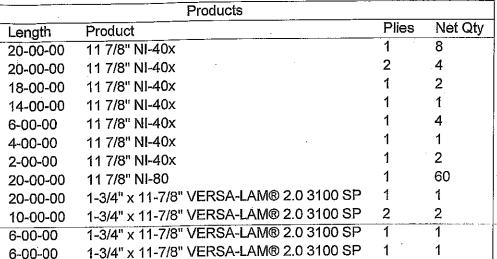
1st FLOOR OPT GUEST

SUBFLOOR: 3/4" GLUED AND NAILED

**DATE:** 2021-03-18

SUITE





	Connecto	r Summary
Qty	Manuf	Product
3	H1	IUS2.56/11.88
11	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
1	H2	HUS1.81/10



**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION:** 3

LOT:

CITY: HAMILTON

**SALESMAN: RICK DICIANO** 

**DESIGNER:** AJ **REVISION:** 

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND

INSTALLATION.

**SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.1 REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH **BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC APPLICATION AS PER O.B.C 9.30.6.

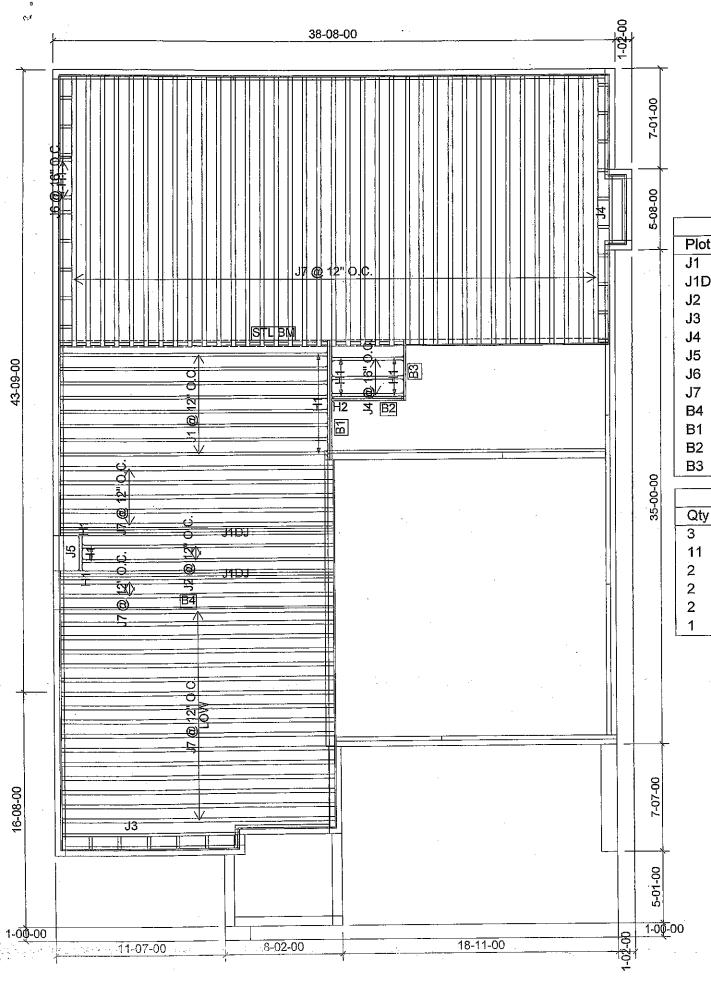
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft2

SUBFLOOR: 3/4" GLUED AND NAILED

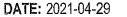
1st FLOOR

**DATE: 2021-03-18** 

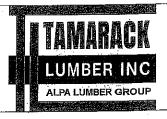


Products					
PlotID	Length	Product	Plies	Net Qty	
J1	20-00-00	11 7/8" NI-40x	1	8	
J1DJ	20-00-00	11 7/8" NI-40x	2	4	
J2	18-00-00	11 7/8" NI-40x	1	2	
J3	14-00-00	11 7/8" NI-40x	1	1	
J4	6-00-00	11 7/8" NI-40x	1	4	
J5	4-00-00	11 7/8" NI-40x	1	1	
J6	2-00-00	11 7/8" NI-40x	1	2	
J7	20-00-00	11 7/8" NI-80	1	60	
B4	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B2	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	
B3	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	

	Connecto	r Summary
Qty	Manuf	Product
3	H1	IUS2.56/11.88
11	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
1	H2	HUS1.81/10



1st FLOOR OPT GUEST SUITE



FROM PLAN DATED: 2021/2

**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS PH4

**MODEL:** SPRINGFIELD 3

**ELEVATION:** 3

LOT:

**CITY:** HAMILTON

SALESMAN: RICK DICIANO

**DESIGNER:** AJ **REVISION:** 

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND

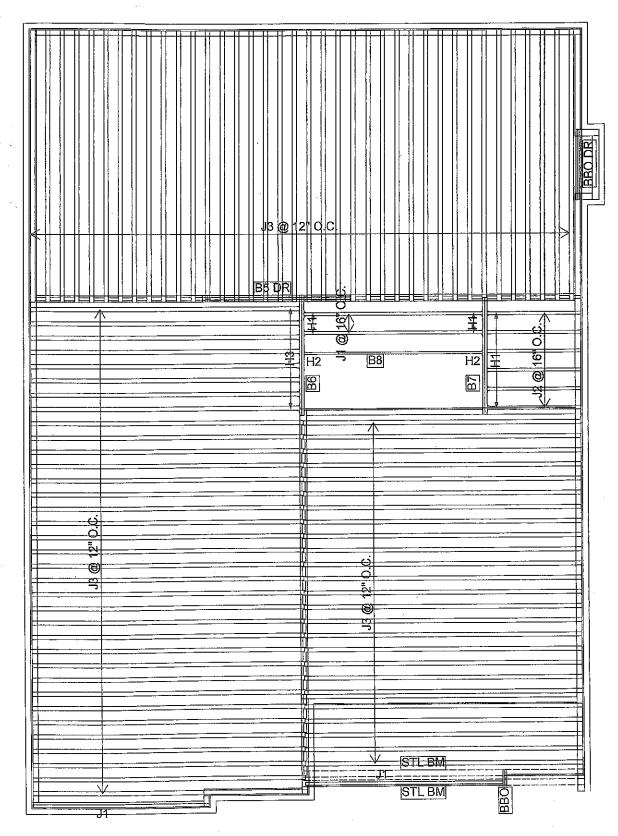
INSTALLATION.

**SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH **BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK F I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC APPLICATION AS PER O.B.C 9.30.6.

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft2 DEAD LOAD: 15.0 lb/ft2 TILE LOAD: 20.0 lb/ft2

SUBFLOOR: 3/4" GLUED AND NAILED



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	11 7/8" NI-40x	1	4
J2	8-00-00	11 7/8" NI-40x	1	6
J3	20-00-00	11 7/8" NI-80	1	98
B5 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary								
Qty	Product							
10	H1	IUS2.56/11.88						
2	H2	HUS1.81/10						
8	H3	IUS3.56/11.88						



**BUILDER:** GREENPARK HOMES

**SITE:** RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION: 1** 

LOT:

**CITY: HAMILTON** 

SALESMAN: RICK DICIANO

**DESIGNER:** AJ **REVISION:** 

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.F REO'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK R I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC 7 APPLICATION AS PER O.B.C 9.30.6.

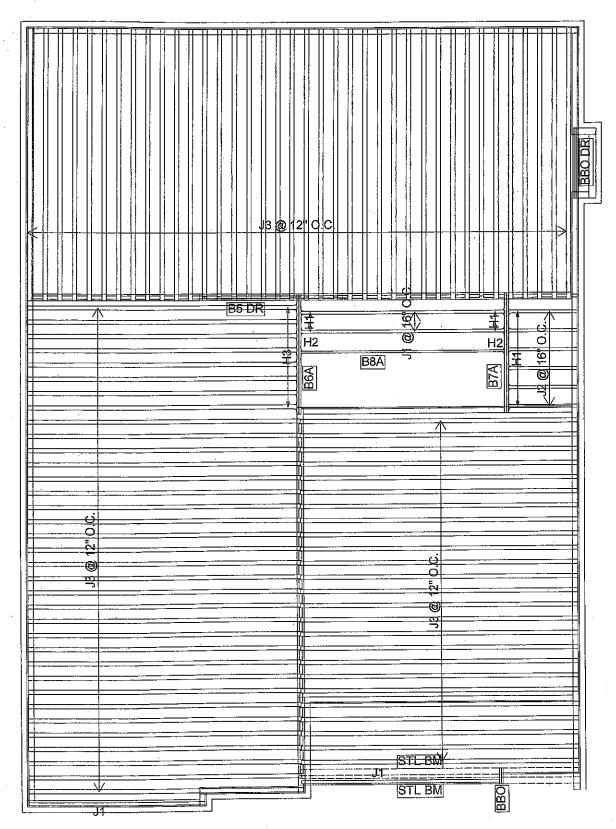
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft2 TILE LOAD: 20.0 lb/ft<sup>2</sup>

**DATE:** 2021-04-29

SUBFLOOR: 5/8" GLUED AND NAILED

2ND FLOOR



Products							
PlotiD	Length	Product	Plies	Net Qty			
J1	14-00-00	11 7/8" NI-40x	1	4			
J2	6-00-00	11 7/8" NI-40x	1	6			
J3	20-00-00	11.7/8" NI-80	1	98			
B5 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3			
B8A	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B6A	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B7A	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			

Connector Summary								
Qty	Manuf	Product						
10	H1 -	IUS2.56/11.88						
2	H2	HUS1.81/10						
8	Н3	IUS3.56/11.88						



**BUILDER:** GREENPARK HOMES

SITE: RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION: 1** 

LOT:

CITY: HAMILTON

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

# NOTES:

REFER TO THE NORDIC INSTALLATION
GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK RIJOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC 1 APPLICATION AS PER O.B.C 9.30.6.

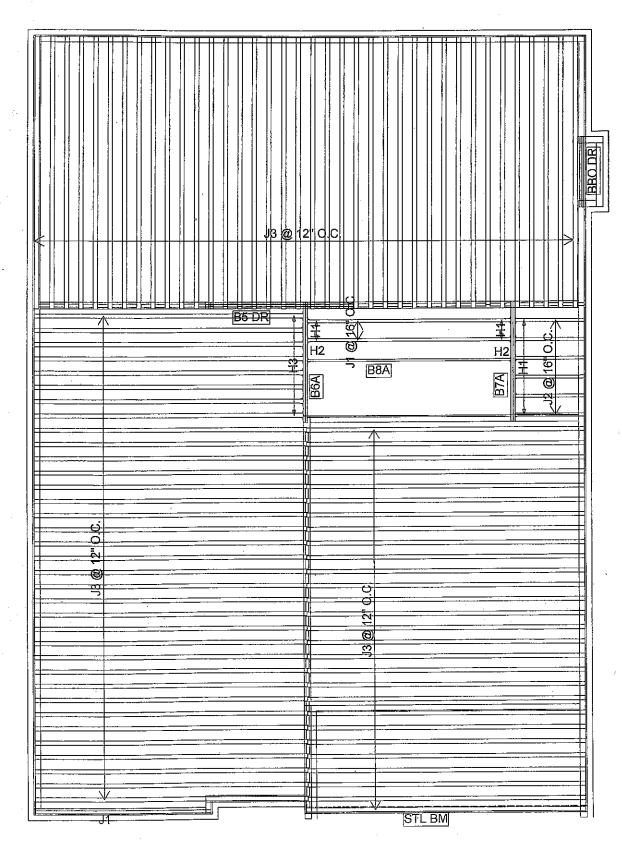
# LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2021-04-29

2ND FLOOR OPT 10'.



Products							
PlotID	Length	Product	Plies	Net Qty			
J1	14-00-00	11 7/8" NI-40x	1	3			
J2	6-00-00	11 7/8" NI-40x	1	6			
J3	20-00-00	11 7/8" NI-80	1	101			
B5 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3 -	3			
B8A	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B6A	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B7A	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			

Connector Summary								
Qty Manuf Product								
10	H1	IUS2.56/11.88						
2	H2	HUS1.81/10						
8	H3	IUS3.56/11.88						



**BUILDER: GREENPARK HOMES** 

**SITE: RUSSELL GARDENS PH4** 

**MODEL: SPRINGFIELD 3** 

**ELEVATION: 2** 

LOT:

**CITY:** HAMILTON

SALESMAN: RICK DICIANO

**DESIGNER:** AJ **REVISION:** 

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH **BLOCKS** REQ'D UNDER CONCENTRATED LOADS, SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK R I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC 1 APPLICATION AS PER O.B.C 9.30.6.

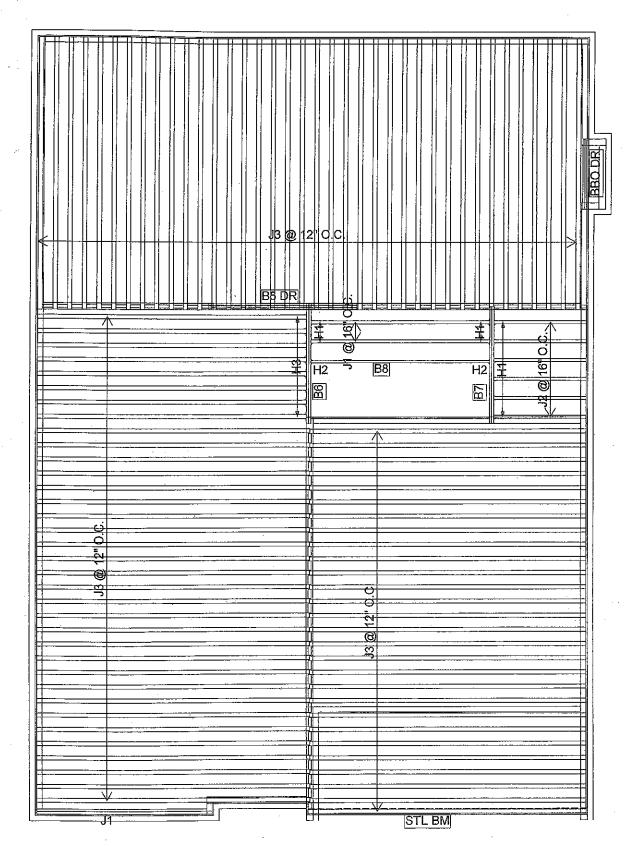
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft2

SUBFLOOR: 5/8" GLUED AND NAILED

**DATE: 2021-04-29** 

2ND FLOOR OPT 1/0/2012 MAIN FLOOR



Products								
PlotID	Length	Product	Plies	Net Qty				
J1	14-00-00	11 7/8" NI-40x	1	3				
J2	8-00-00	11 7/8" NI-40x	1	6				
J3	20-00-00	11 7/8" NI-80	1	101				
B5 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3				
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B6	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B7	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				

Connector Summary							
Qty	Qty Manuf Product						
10	H1	IUS2.56/11.88					
2	H2	HUS1.81/10					
8	H3	IUS3.56/11.88					



**BUILDER:** GREENPARK HOMES

**SITE:** RUSSELL GARDENS PH4

**MODEL:** SPRINGFIELD 3

**ELEVATION:** 2

LOT:

**CITY:** HAMILTON

**SALESMAN: RICK DICIANO** 

DESIGNER: AJ REVISION:

NOTES:

REFER TO THE NORDIC INSTALLATION
GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK RI I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC T APPLICATION AS PER O.B.C 9.30.6.

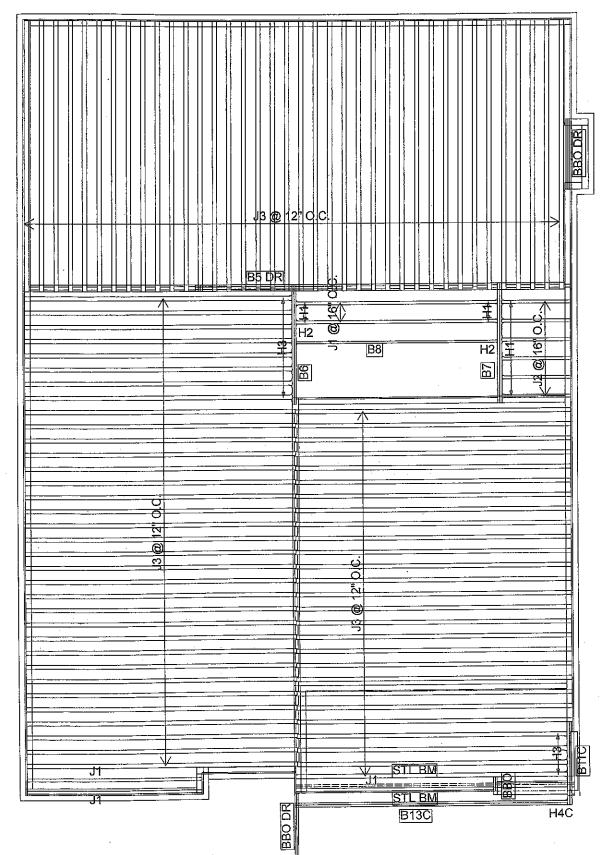
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft<sup>2</sup>

2ND FLOOR

**DATE:** 2021-04-29

SUBFLOOR: 5/8" GLUED AND NAILED



Products								
PlotID	Length	Product	Plies	Net Qty				
J1	14-00-00	11 7/8" NI-40x	1	5				
J2	6-00-00	11 7/8" NI-40x	1	6				
J3	20-00-00	11 7/8" NI-80	1	99				
B5 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3				
B13C	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1				
B6	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B7	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B11C	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				

Connector Summary							
Qty	Qty Manuf Product						
10	H1	IUS2.56/11.88					
2	H2	HUS1.81/10					
12	H3	IUS3.56/11.88					
1	H4C	HUC410					



**BUILDER: GREENPARK HOMES** 

SITE: RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION:** 3

LOT:

**CITY: HAMILTON** 

**SALESMAN: RICK DICIANO** 

DESIGNER: AJ REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION**GUIDE FOR PROPER STORAGE AND

INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK R I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC 1 APPLICATION AS PER O.B.C 9.30.6.

LOADING:

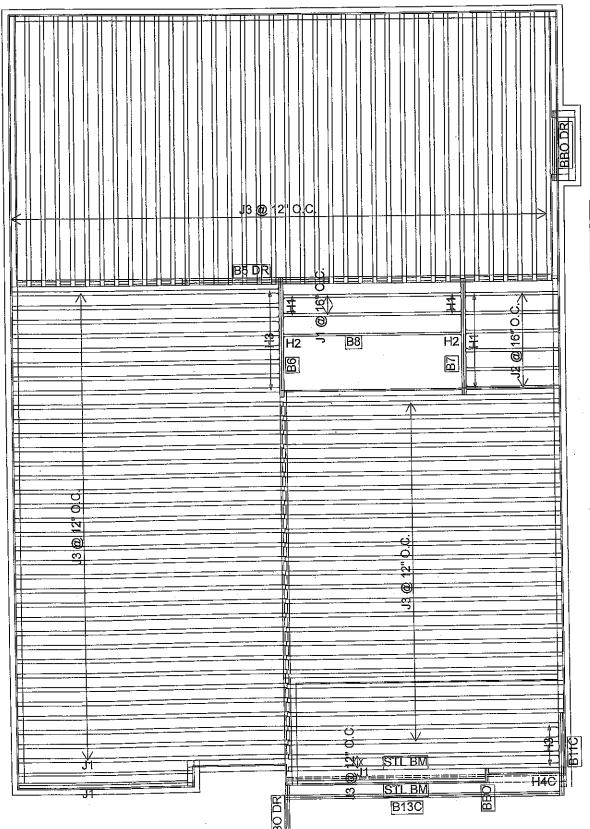
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft<sup>2</sup>

ND FLOOR OPT 10

MAIN FLOOR

DATE: 2021-04-29

SUBFLOOR: 5/8" GLUED AND NAILED



Products								
PlotID	Length	Product	Plies	Net Qty				
J1	14-00-00	11 7/8" NI-40x	1	5				
J2 <sup>-</sup>	8-00-00	11 7/8" NI-40x	1	6				
J3	20-00-00	11 7/8" NI-80	1	99				
B5 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3				
B13C	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	• 1				
во В6	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
В7	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				
B11C	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2				

Connector Summary							
Qty	Manuf	Product					
10	H1	IUS2.56/11.88					
2	H2	HUS1.81/10					
12	H3	IUS3.56/11.88					
1	H4C	HUC410					



**BUILDER:** GREENPARK HOMES

SITE: RUSSELL GARDENS PH4

MODEL: SPRINGFIELD 3

**ELEVATION:** 3

LOT:

CITY: HAMILTON

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

# NOTES:

REFER TO THE **NORDIC INSTALLATION**GUIDE FOR PROPER STORAGE AND
INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK FIJOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC APPLICATION AS PER O.B.C 9.30.6.

# LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 15.0 lb/ft<sup>2</sup> TILE LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

**DATE: 2021-04-29** 

2ND FLOOR





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B6(i642) (Flush Beam)

**BC CALC® Member Report** 

Dry | 1 span | No cant. **Build 7773** 

March 18, 2021 07:46:14

Job name:

Address:

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

File name:

SPRINGFIELD 3 EL 1.mmdl

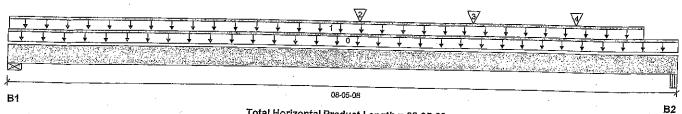
Description: 2ND FLR FRAMING\Flush Beams\B6(i642)

Wind

Specifier:

Designer:

Company:



Total Horizontal Product Length = 08-05-08

Snow

Reaction Summary (Down / Uplift) (ibs)

Bearing Live Dead B1, 5-1/2" 1843 / 0 989 / 0 B2, 5-1/4" 2113 / 0 1126 / 0

LOa Tag	ad Summary Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-05-08	Тор	1.00	12	1.00	1.15	
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-02	08-00-02	Top	373	ı∠ 186			00-00-00
2	B8(i644)	Conc. Pt. (lbs)	L	04-04-06	04-04-06	1-	185	129			n\a
3	J1(i776)	Conc. Pt. (lbs)	L	05-09-10		Top	352				n\a
4	J1(i774)	Conc. Pt. (lbs)	1	07-01-10	07-01-10	- 4-		176			n\a
		concret to (loo)	-	01-01-10	01-10-10	Тор	420	210	•		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	8169 ft-lbs	35392 ft-lbs	23.1%	1	04-06-02
End Shear	4076 lbs	14464 lbs		!	
* = **			28.2%	. 1	07-00-06
Total Load Deflection	L/999_(0.062";)	n\a	n\a	<b>4</b>	04-03-08
Live Load Deflection	L/999 (0.04")	n\a	n\a	5	04-03-08
Max Defl.	0.062"	n\a	n\a	-	
Span / Depth	7.8		iii G	4	04-03-08

Bearing	2 Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	4001 lbs	33.8%	17.0%	Spruce-Pine-Fir
B2	Beam	5-1/4" x 3-1/2"	4576 lbs	20.4%	20.4%	VL 2.0 3100 SP

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

CONFORMS TO OBG 2012

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-08-08.



148 HD. TAN 9569-21 STRUCTUŘAL COMPONENT ONLY





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SF

PASSED

### 2ND FLR FRAMING\Flush Beams\B6(i642) (Flush Beam)

Dry | 1 span | No cant.

March 18, 2021 07:46:14

BC CALC® Member Report

Bulld 7773

Job name:

Address: City, Province, Postal Code:

Customer:

Code reports:

File name:

SPRINGFIELD 3 EL 1.mmdl

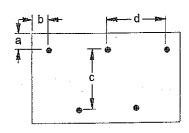
Description:

2ND FLR FRAMING\Flush Beams\B6(i642)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member





CCMC 12472-R

a minimum = 2" b minimum = 3" c = 7-7/8" d = **49** 8

Calculated Side Load = 799.0 lb/ft Connectors are: 16d Nails

3%" ARDOX SPIRAL



Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





PASSED

# 2ND FLR FRAMING\Flush Beams\B7(i643) (Flush Beam)

Dry | 1 span | No cant.

March 18, 2021 07:46:14

BC CALC® Member Report **Build 7773** 

Job name: Address:

City, Province, Postal Code:

Customer:

Code reports:

File name:

SPRINGFIELD 3 EL 1.mmdl

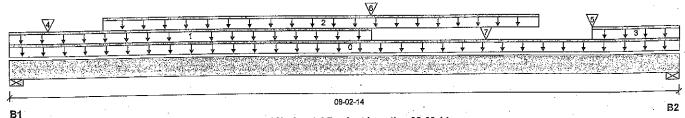
Wind

Description: 2ND FLR FRAMING\Flush Beams\B7(i643)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 08-02-14

Snow

Reaction Summary (Down / Uplift) (lbs)

CCMC 12472-R

Live Bearing B1, 5-1/2" 877 / 0 1618/0 783 / 0 1434 / 0 B2, 2-3/4"

1 00	d Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-02-14	Тор		-12			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	04-04-08	Top	240	120			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-01-10	06-05-10	Top	130	65			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L .	07-01-10	08-02-14	Тор	39	19			n\a
	•	Conc. Pt. (lbs)	L	00-05-10	00-05-10	Тор	153	77			n\a
4 5	J2(i777)	Conc. Pt. (lbs)	L	07-01-10	07-01-10	Тор	556	278			n\a
-	B8(i644)	Conc. Pt. (lbs)	L	04-04-06	04-04-06	Тор	185	129			n\a
6 7	J1(i776)	Conc. Pt. (lbs)	L	05-09-10	05-09-10	Тор	352	176			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6273 ft-lbs	35392 ft-lbs	17.7%	1	04-04-06
End Shear	2956 lbs	14464 <b>I</b> bs	20.4%	1	07-00-04
Total Load Deflection	L/999 (0.048")	n\a	n\a	4	04-03-08
Live Load Deflection	L/999 (0.031")	n\a	n\a	5	04-03-08
Max Defl.	0.048"	n\a	n\a	4	04-03-08
Span / Depth	7.8				

Rearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1		5-1/2" x 3-1/2"	3523 lbs	29.7%	15.0%	Spruce-Pine-Fir
B2		2-3/4" x 3-1/2"	3130 lbs	52.9%	26.7%	Spruce-Pine-Fir

### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

CONFORMS TO OBC 2012

Design meets Code minimum (L/360) Live load deflection criteria.

Resistance Factor phi has been applied to all presented results per CSA O86.

AMENDED 2020

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.



COMPONENT OHLY





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SF 2ND FLR FRAMING\Flush Beams\B7(i643) (Flush Beam)

Dry | 1 span | No cant.

March 18, 2021 07:46:14

PASSED

BC CALC® Member Report **Build 7773** 

Job name: Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File name:

SPRINGFIELD 3 EL 1.mmdl

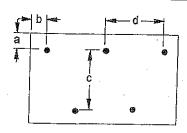
Description: 2ND FLR FRAMING\Flush Beams\B7(i643)

Specifier:

Designer:

Company:

# Connection Diagram: Full Length of Member





a minimum = 2" b minimum = 3" c = 7-7/8" d = 🍩 8 '

Calculated Side Load = 593.4 lb/ft Connectors are: 16d : ya : Nails

3% ARDOX SPIRAL



dws no. tam *9570* -2 l Structural COMPONENT ONLY

#### <u>Disclosure</u>

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of sultability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation
Guide and applicable building codes. To
obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJSTM. ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS® .





PASSED

# 2ND FLR FRAMING\Flush Beams\B8(i644) (Flush Beam)

Dry | 1 span | No cant. BC CALC® Member Report

March 18, 2021 07:46:14

**Build 7773** 

Job name:

Address:

City, Province, Postal Code:

Customer: Code reports:

CCMC 12472-R

SPRINGFIELD 3 EL 1.mmdl File name:

2ND FLR FRAMING\Flush Beams\B8(i644) Description:

Specifier: Designer:

Company:

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A Control of the Cont	<del></del>			
		12-03-00	•	
1				

Total Horizontal Product Length = 12-03-00

Reaction S	ummary (Down / U	plift) (lbs)			
Bearing	Live	Dead	Snow	Wind	
B1. 2"	185 / 0	129 / 0	··		
B2 2"	185 / 0	129 / 0			

Load Summary	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
Tag Description	Unf. Lin. (lb/ft)	L	00-00-00	12-03-00	Тор		6			00-00-00
0 Self-Weight 1 FC3 Floor Decking (Plan		Ĺ	00-00-00	12-03-00	Тор	30	15			n\a

Controls Summary	Factored Demand	Factored Resistance	Resistance	Case	Location
Pos. Moment	1300 ft-lbs	17696 ft-lbs	7.3%	1	06-01-08
	356 lbs	7232 lbs	4.9%	1	01-01-14
End Shear	L/999 (0.05")	n\a	n\a	4	06-01-08
Total Load Deflection	L/999 (0.029")	n\a	n\a	5	06-01-08
Live Load Deflection	•	n\a	n\a	4	06-01-08
Max Defl.	0.05"	illa	I I I IÇI	•	00 01 00
Span /-Depth	12.2				

Roaring	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	439 lbs	n\a	10.3%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	439 lbs	n\a	10.3%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

**Notes** 

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

CONFORMS TO OBG 2012

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 086. AMENDED 2020 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 12-03-00.



# Disclosure

Use of the Boise Cascade Software is License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®. BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





PASSED

### 1ST FLR FRAMING\Flush Beams\B1(i469) (Flush Beam)

Dry | 1 span | No cant.

March 18, 2021 07:46:14

**Build 7773** 

Job name:

Address:

City, Province, Postal Code:

**BC CALC® Member Report** 

Customer:

Code reports:

File name:

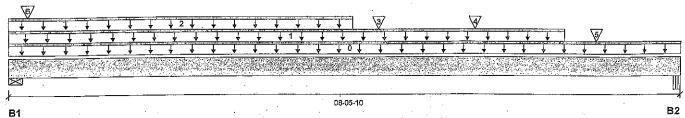
SPRINGFIELD 3 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1(i469)

Wind

Specifier: Designer:

Company:



Total Horizontal Product Length = 08-05-10

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing Live 2345/0 4357/0 B1, 5-1/2" 987/0 1859 / 0 B2, 5-1/4"

CCMC 12472-R

Los	ad Summary						Live	Dead	Snow	Wind	Trlbutary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-05-10	Тор		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	06-11-10	Тор	378	189			n∖a
9	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	04-03-02	Top	240	120			n\a
3	J3(i570)	Conc. Pt. (lbs)	L	04-07-00	04-07-00	Top	83	41			n\a
4	J3(i571)	Conc. Pt. (lbs)	L	05-09-10	05-09-10	Top	133	66			n\a
5	-	Conc. Pt. (lbs)	L	07-04-08	07-04-08	Top	440	219			n\a
6	1/i638\	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	1845	1029			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	8752 ft-lbs	35392 ft-lbs	24.7%	1	04-02-04
End Shear	3846 lbs	14464 lbs	26.6%	1	01-05-06
Total Load Deflection	L/999 (0.067")	n\a	n\a	4	04-02-04
Live Load Deflection	L/999 (0.044")	n\a	n\a	5	04-02-04
Max Defl.	0.067"	n\a	n\a	4	04-02-04
Snan / Denth	7.8				

Bearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1		5-1/2" x 3-1/2"	9466 lbs	79.9%	40.3%	Spruce-Pine-Fir
B2	Beam	5-1/4" x 3-1/2"	4023 lbs	51.2%	17.9%	Unspecified

# **Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

CONFORMS TO OBC 2012

Resistance Factor phi has been applied to all presented results per CSA O86.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.



006 NO. TAN 9572-21 STRUCTUŔAL COMPONENT ONLY





PASSED

March 18, 2021 07:46:14

# 1ST FLR FRAMING\Flush Beams\B1(i469) (Flush Beam)

BC CALC® Member Report

**Build 7773** 

Job name: Address:

City, Province, Postal Code:

Customer:

Code reports:

Dry | 1 span | No cant.

File name:

SPRINGFIELD 3 EL 1.mmdl

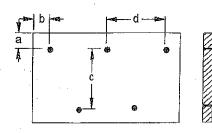
Description: 1ST FLR FRAMING\Flush Beams\B1(i469)

Specifier: Designer:

Company:

# Connection Diagram: Full Length of Member

CCMC 12472-R



a minimum = 2" b minimum = 3" c = 7-7/8" d = **8** 6"

Calculated Side Load = 802.5 lb/ft Connectors are: 16d . A Nails 3%" ARDOX SPIRAL

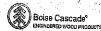


UNB NO. TAM 9572-21 STRUCTURAL COMPONENT ONLY

### **Disclosure**

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BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





1ST FLR FRAMING\Flush Beams\B2(i578) (Flush Beam)

Dry | 1 span | No cant.

March 18, 2021 07:46:14

PASSED

**Build 7773** 

Job name: Address:

City, Province, Postal Code:

**BC CALC® Member Report** 

Customer: Code reports:

CCMC 12472-R

.File name:

SPRINGFIELD 3 EL 1.mmdl

Wind

Description: 1ST FLR FRAMING\Flush Beams\B2(i578)

Specifier:

Designer:

Company:

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Name of the state	
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Control of the Contro	
L	
1	The second of th
B1 .	04-11-00
	×+11-50

# Total Horizontal Product Length = 04-11-00

Snow

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	20 / 0	25 / 0
B2, 1-3/4"	19 / 0	24/0

<u>Tag</u> 0	Self-Weight	Load Type Unf. Lin. (lb/ft)	Ref.	Start 00-00-00	End 04-11-00	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	Ĺ	00-00-00	04-11-00	Top Top	8	6 4		<u></u>	00-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/		
Pos. Moment	68 ft-lbs	17696 ft-lbs	Resistance 0.4%	Case	Location
End Shear	32 lbs	7232 lbs		1	02-05-10
Total Load Deflection	L/999 (0")	n/a	0.4%	1	01-01-14
Live Load Deflection	L/999 (0")	n\a	n\a	4	02-05-10
Max Defl.	D"		n\a	5	02-05-10
Span /_Depth	_4.8	n\a	n\a	4	02-05-10

	g Supports		Demand	Demand/ Resistance Support	Demand/ Resistance Member	Protected
B1 B2	Hanger Column	2" x 1-3/4" 1-3/4" x 1-3/4"	60 lbs 60 lbs	n\a 3.0%		Material HUS1.81/10 Unspecified

#### Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Hanger Manufacturer: Unassigned

CONFORMS TO OBE 2012 Resistance Factor phi has been applied to all presented results per CSA 086. ANENDED 2020 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086. Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

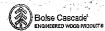
Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-11-00.



# Disclosure

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PASSED

March 18, 2021 07:46:14

# 1ST FLR FRAMING\Flush Beams\B3(i478) (Flush Beam)

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

Dry I 1 span | No cant.

File name:

SPRINGFIELD 3 EL 1.mmdl

Description:

1ST FLR FRAMING\Flush Beams\B3(i478)

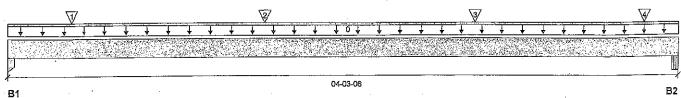
Wind

RANFORMS TO OBG 2012

Specifier:

Designer:

Company:



Total Horizontal Product Length = 04-03-06

Snow

Reaction Summary (Down / Uplift) (lbs)

CCMC 12472-R

 Bearing
 Live
 Dead

 B1, 3-1/2"
 196 / 0
 110 / 0

 B2, 5-1/4"
 203 / 0
 126 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-03-06	Тор		6			00-00-00
1	J3(i570)	Conc. Pt. (lbs)	L	00-04-12	00-04-12	Тор	84	. 42			n\a
2	J3(i571)	Conc. Pt. (lbs)	L	01-07-06	01-07 <b>-</b> 06	Top	133	66			n\a
3	J3(i444)	Conc. Pt. (lbs)	L	02-11-06	02-11-06	Top	125	62			n\a
4	4(i640)	Conc. Pt. (lbs)	L	04-00-10	04-00-10	Тор	54	39		- Nerville	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	371 ft-lbs	17696 ft-lbs	2.1%	1	01-07-06
End Shear	296 lbs	7232 lbs	4.1%	. 1	02-10-04
Total Load Deflection	L/999 (0.001")	n\a	n\a	4	02-00-15
Live-Load Deflection	—L-/999-(0:001")	n\a	n\a	5	-02-00-15
Max Defl.	0.001"	n\a	n\a	4	02-00-15
Span / Depth	3,7				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	432 lbs	10.8%	5.8%	Unspecified
B2	Beam	5-1/4" x 1-3/4"	461 lbs	11.8%	4.1%	Unspecified

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Resistance Factor phi has been applied to all presented results per CSA 086. AMENDED 2020

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

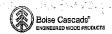
Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

UWG NO. TAM 9579 = 2 E STRUCTURAL COMPONENT ONLY

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PASSED

1ST FLR FRAMING\Flush Beams\B4(i529) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

March 18, 2021 07:46:14

**Build 7773** 

Job name:

Address: City, Province, Postal Code:

Customer:

Code reports:

File name:

SPRINGFIELD 3 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B4(i529)

Specifier:

Designer: Company:

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+ + + +	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
		×
<del>}</del>	19-00-08	
B1		B2

Total Horizontal Product Length = 19-00-08

CCMC 12472-R

Keacuon Sun	IIII aiy (Durii	ււ բերու	r) (ma)				
Bearing	Live		Dead	Snow	Wind		
B1, 3-1/2"			56/0				
B2, 8"			58/0				

Lo	Load Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	19-00-08	Top		6		-	00-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	349 ft-lbs	2752 ft-lbs	12.7%	. 0	09-04-00
End Shear	68 lbs	4701 lbs	1.4%	0	01-03-06
Total Load Deflection	L/999 (0.03")	n\a	n\a	1	09-04-00
Max Defl.	0.03"	n\a	n\a	1	09-04-00
Span / Depth	18.4				

	leárina	_Supports_	Dim (LvM)	_Demand	Demand/ Resistance	Demand/ Resistance Member	Material
_							<del></del>
В	1	Wall/Plate	3-1/2" x 1-3/4"	79 lbs	1.7%	1.6%	Unspecified
В	2	Wall/Plate	8" x 1-3/4"	82 lbs	0.8%	0.7%	Unspecified

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 18-01-00, Bottom: 18-01-00.

COMPORMS TO CBC 2012

AMENDED 2020



6 10 TAN 9525 -21 STRUCTURAL COMPONENT ONLY

# <u>Disclosure</u>

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PASSED

March 18, 2021 07:58:45

# 2ND FLR FRAMING\Flush Beams\B6A(i2095) (Flush Beam)

BC CALC® Member Report

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

SPRINGFIELD 3 EL 1 10' CEILING.mmdf

File name: Description:

2ND FLR FRAMING\Flush Beams\B6A(i2095)

Specifier:

Designer: ΑJ

Company:

		* *		VIII - 14					<u> </u>	*******				- V			Christian of the Co	* 2.2.7.2	₩			A	2
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																						4	<u> </u>
						Mira									200			gy				12.54	<u> </u>

Total Horizontal Product Length = 08-05-08

Reaction Summary (Down / Uplift) (lbs)

Bearing Live 1860 / 0 B1, 5-1/2"

1000 / 0

B2, 5-1/4"	2106 / 0	1125 / 0
Load Summary		

Lo	ad Summary				-		Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-05-08	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-02	08-00-02	Тор	373	186			n\a
2	B8A(i2033)	Conc. Pt. (lbs)	L	04-04-06	04-04-06	Top	210	147			n\a
3	J1(i2013)	Conc. Pt. (lbs)	L	05-09-10	05-09 <b>-</b> 10	Top	400	200			n\a
4	J1(i2161)	Conc. Pt. (lbs)	· L	07-01-10	07-01-10	Top	335	167			n\a

•		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	8323 ft-lbs	35392 ft-lbs	23.5%	· 1	04-06-02
End Shear	4075 lbs	14464 lbs	28.2%	1	07-00-06
Total_Load_Deflection	L/999-(0.063")	n\a	n\a	4	04=03=08
Live Load Deflection	L/999 (0.041")	n\a	n\a	5	04-03-08
Max Defl.	0.063"	n\a	n\a	4	04-03-08
Span / Depth	7.8				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wali/Plate	5-1/2" x 3-1/2"	4041 lbs	34.1%	17.2%	Spruce-Pine-Fir
B2	Beam	5-1/4" x 3-1/2"	4565 lbs	20.4%	20.4%	VL 2.0 3100 SP

# **Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

CONFORMS TO OBG 2012

Design meets Code minimum (L/360) Live load deflection criteria.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-08-08.

OF NCE OF





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B6A(I2095) (Flush Beam)

Passed

March 18, 2021 07:58:45

**BC CALC® Member Report** 

Build 7773

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code:

HAMILTON

CCMC 12472-R

Dry [ 1 span | No cant.

File name: SPRINGFIELD 3 EL 1 10' CEILING.mmdl

Description:

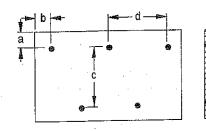
2ND FLR FRAMING\Flush Beams\B6A(i2095)

Specifier:

Designer: A

Company:

# Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c = 7-7/8" // d = **6** 8

Calculated Side Load = 799.0 lb/ft Connectors are: 16d . A Nails

36" ARDOX SPIRAL



ews no. Tam 9576-20 STRUCTURAL COMPONENT ONLY

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PASSED

March 18, 2021 07:58:45

# 2ND FLR FRAMING\Flush Beams\B7A(i2047) (Flush Beam)

BC CALC® Member Report

**Build 7773** Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

Wind

SPRINGFIELD 3 EL 1 10' CEILING.mmdl

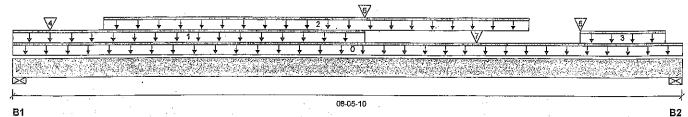
File name: Description:

2ND FLR FRAMING\Flush Beams\B7A(i2047)

Specifier:

Designer: ΑJ

Company:



#### Total Horizontal Product Length = 08-05-10

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing Live Dead B1, 5-1/2" 1491 / 0 817/0 1300 / 0 724/0 B2, 5-1/2"

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-05-10	Тор		12			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	04-04-08	Top	240	120			n\a
2	Smoothed Load	Unf, Lin. (lb/ft)	L	01-01-10	06-05-10	Тор	97	48			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	07 <b>-</b> 01-10	08-02-14	Тор	40	20	•		· n\a
4	J2(i1973)	Conc. Pt. (lbs)	L	00-05-10	00-05-10	Тор	114	<b>5</b> 7 ·			n\a
5	-	Conc. Pt. (lbs)	L	07-01-10	07-01-10	Тор	440	221			n\a
6	B8A(i2033)	Conc. Pt. (lbs)	L	04-04-06	04-04-06	Тор	210	147			n\a
7	J1(i2013)	Conc. Pt. (lbs)	L	05-09-10	05-09-10	Top	400	200			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5910 ft-lbs	35392 ft-lbs	16.7%	1	04-04-06
End Shear	2706 lbs	14464 lbs	18.7%	1	07-00-04
Total Load Deflection	L/999 (0.045")	n\a	n\a	4	04-03-08
Live Load Deflection	L/999 (0.029")	n\a	n\a	5	04-03-08
Max Defl.	0.045"	n\a	n\a	4	04-03-08
Span / Depth	7.8				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	<u>Material</u>
B1	Wall/Plate	5-1/2" x 3-1/2"	3257 lbs	27.5%	13.9%	Spruce-Pine-Fir
B2	Wall/Plate	5-1/2" x 3-1/2"	2855 lbs	24.1%	12.2%	Spruce-Pine-Fir

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

AMENDED 2020

Resistance Factor phi has been applied to all presented results per CSA O86. BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.



STRUCTURAL COMPONENT ONLY





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B7A(i2047) (Flush Beam)

Passed

March 18, 2021 07:58:45

BC CALC® Member Report

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

SPRINGFIELD 3 EL 1 10' CEILING.mmdi File name:

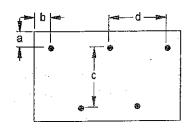
Description: 2ND FLR FRAMING\Flush Beams\B7A(i2047)

Specifier:

Designer: ΑJ

Company:

# Connection Diagram: Full Length of Member





a minimum = 2" b minimum = 3"

c = 7-7/8" d = **8** 8 4

Calculated Side Load = 674.4 lb/ft Connectors are: 16d 🗸 🧳 - Nails

34" ARDOX SPIRAL

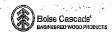


due no. fan 9501 STRUCTURAL COMPONENT ONLY

#### Disclosure

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BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





# Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B8A(i2033) (Flush Beam)

PASSED

March 18, 2021 07:58:45

BC CALC® Member Report

**Build 7773** 

Job name: Address:

Customer:

Code reports:

City, Province, Postal Code: HAMILTON

Dry | 1 span | No cant.

SPRINGFIELD 3 EL 1 10' CEILING.mmdl

File name: Description:

2ND FLR FRAMING\Flush Beams\B8A(i2033)

Specifier:

Designer: ΑJ

CCMC 12472-R

Company:

**B**1

13-11-00

Snow

Total Horizontal Product Length = 13-11-00

Wind

B2

# Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	210 / 0	147 / 0
B2, 2"	210 / 0	147 / 0

Loi	nd Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-11-00	Тор		6			00-00-00
1	FC3 Floor Decking (Plan	Unf. Lin. (lb/ft)	L	00-00-00	.13-11-00	Тор	30	15			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1685 ft-lbs	17696 ft-lbs	9.5%	1	06-11-08
End Shear	416 lbs	7232 lbs	5.8%	1	01-01-14
Total Load Deflection	L/999 (0.084")	n\a	n\a	4	06-11-08
Live Load Deflection	L/999 (0.049")	n\a	n\a	5	06-11-08
Max Defl.	0.084"	n\a	n\a	4	06-11-08
Span-/-Depth	13.9				

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Bearing	g Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	499 lbs	n\a	11.7%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	499 lbs	n\a	11.7%	HUS1.81/10

946 HO. TAM 9578-28 COMPONENT ONLY

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. AMENDED 2020 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 13-11-00.

#### Disclosure

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# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Dropped Beams\B13C(i2553) (Dropped Beam)

PASSED

BC CALC® Member Report

**Build 7773** 

Dry | 1 span | No cant.

March 18, 2021 09:00:09

Job name:

Address:

City, Province, Postál Code: HAMILTON

Customer:

Code reports:

CCMC 12472-R

File name:

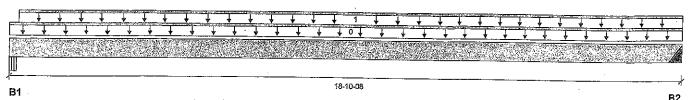
SPRINGFIELD 3 EL 3 10' CEILING, mmdl

Description: 2ND FLR FRAMING\Dropped Beams\B13C(i2553)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 18-10-08

Neaction 30	ilililialy (Dowli / C	ipinit) (ibs)	and the second s	•	•	
Bearing	Live	Dead	Snow	Wind		
B1, 3"		373 / 0	452 / 0			
B2, 2"		376 / 0	460 / 0			

	oad Summary			÷			Live	Dead	Snow	Wind	Tributary
	ag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Q	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-10-08	Тор		12			00-00-00
1	LOW ROOF	Unf. Lin. (lb/ft)	L	00-03-00	18-10-08	Top		28	40	•	n\a
1	LOW KOOF	Unt. Lin. (ib/π)	L	00-03-00	18-10-08	Тор	1	28	49		ſ

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5333 ft-lbs	10545 ft-lbs	50.6%	1	09-05-12
End Shear	1018 lbs	14464 lbs	7.0%	1	01-02-14
Total Load Deflection	L/912 (0.245")	n\a	26,3%	12	09-05-12
Live Load Deflection	L/1657 (0.135")	n\a	21.7%	17	09-05-12
Max Defl.	0.245"	n\a	n\a	12	09-05-12
Span / Depth	18.8				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	3" x 3-1/2"	1144 lbs	17.7%	8.9%	Spruce-Pine-Fir
B2	Hanger	2" x 3-1/2"	1161 lbs	n\a	13.6%	HUC410

#### Cautions

Header for the hanger HUC410 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

CANPORNS TO OBC 2012

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

AMENDED 2020

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 18-10-08, Bottom: 18-07-08.



COMPONENT ONLY





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Dropped Beams\B13C(i2553) (Dropped Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

March 18, 2021 09:00:09

**Build 7773** 

Job name:

Address:

Code reports:

City, Province, Postal Code: HAMILTON

CCMC 12472-R

Specifier:

SPRINGFIELD 3 EL 3 10' CEILING.mmdl

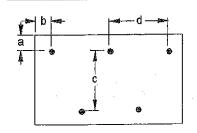
Description: 2ND FLR FRAMING\Dropped Beams\B13C(i2553)

File name:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 🕶 8

Connectors are:

: Nails

ARDOX SPIRAL



10 - 10 . TAN 9500 -21 STRUCTURAL COMPONENT ONLY

#### Disclosure

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# Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLR FRAMING\Flush Beams\B4S(i2038) (Flush Beam)

PASSED

March 19, 2021 08:17:02

**BC CALC® Member Report** 

Build 7773

Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: HAMILTON

CCMC 12472-R

Dry | 1 span | No cant.

File name:

SPRINGFIELD 3S EL 1.mmdl

Description:

1ST FLR FRAMING\Flush Beams\B4S(i2038)

Specifier:

Designer:

Wind

Company:

		=
		. 1447 . 1447
<u> </u>	18-08-08	

Total Horizontal Product Length = 18-08-08

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing 55/0 B1, 3-1/2' 57/0 B2, 8"

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-08-08	Top		6			00-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	336 ft-lbs	2803 ft-lbs	12.0%	0	09-02-00
End Shear	66 lbs	4701 lbs	1.4%	0	01-03-06
Total Load Deflection	L/999 (0.028")	n\a	n\a	1	09-02-00
Max Defl.	0.028"	n\a	n\a	1	09-02-00
Span / Depth	18.1				

Bearin	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	3-1/2" x 1-3/4"	77 lbs	1.4%	1.6%	Unspecified
B2	Wali/Plate	8" x 1-3/4"	80 lbs	0.6%	0.7%	Unspecified

#### **Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 17-09-00, Bottom: 17-09-00.

CONFORMS TO OBC 2012

AMENDED 2020



STRUCTURA COMPONENT ONLY

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# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B11C(i2549) (Flush Beam)

Passed

March 18, 2021 09:00:09

**BC CALC® Member Report** 

**Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | L cant.

SPRINGFIELD 3 EL 3 10' CEILING.mmdl

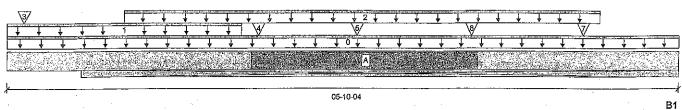
File name:

Description: 2ND FLR FRAMING\Flush Beams\B11C(i2549)

Specifier:

Designer:

Company:



#### Total Horizontal Product Length = 05-10-04

Reaction Summary (Down / Uplift) (lbs)

Live Bearing Dead Snow 1230 / 0 555/0 B1, 62-3/4" 1459 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-10-04	Top		12			00-00-00
1	LOW ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-00-02	Top		28	49		n\a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	01-00-00	05-01-12	Тор	13	6			n\a
3	B13C(i2553)	Conc. Pt. (lbs)	Ļ	00-01-12	00-01-12	Top		373	456		n\a
4	J3(i2480)	Conc. Pt. (lbs)	L	02-01-14	02-01-14	Тор	305	153			n\a
5	J3(i2479)	Conc. Pt. (lbs)	L	03-00-00	03-00-00	Тор	346	173			n\a
6	J3(i2235)	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	376	188			n\a
7	J3(i2416)	Conc. Pt. (lbs)	L	05-00-00	05-00-00	Top	376	188			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Neg. Moment	-577 ft-lbs	-35392 ft-lbs	1.6%	13	00-07-08
End Shear	1227 lbs	14464 lbs	8.5%	13	00-07-08
Total Load Deflection	2xL/1998 (0")	n\a	n\a	35	00-00-00
Live Load Deflection	2xL/1998 (0")	n\a	n\a	51	00-00-00
Span / Depth	0.6				
Dist. Load (B1)	128.81 lb/ft	57645.1 lb/ft	0.2%		
Conc. Load (B1)	799 lbs	16813 lbs	4.8%		

			Demand/ Resistance	Demand/ Resistance	
<b>Bearing Supports</b>	Dim. (LxW)	Demand	Support	Member	Material
B1 Wall/Plate	62-3/4" x 3-1/2"	4281 lbs	3.2%	1.6%	Spruce-Pine-Fir

Concentrated side load(s) 6 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B11C(i2549) (Flush Beam) Dry | 1 span | L cant.

PASSED

March 18, 2021 09:00:09

BC CALC® Member Report

Build 7773 Job name:

Address:

Customer:

City, Province, Postal Code: HAMILTON

Code reports:

CCMC 12472-R

Description:

Specifier: Designer:

Company:

File name:

SPRINGFIELD 3 EL 3 10' CEILING.mmdI 2ND FLR FRAMING\Flush Beams\B11C(i2549)

CONFORMS TO OBC 2012

ΑJ

Notes

Design meets User specified (2xL/240) Total load deflection criteria.

Design meets User specified (2xL/360) Live load deflection criteria.

Resistance Factor phi has been applied to all presented results per CSA O86.

AMENDED 2020 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

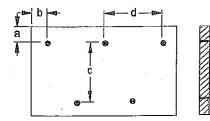
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Calculations assume unbraced length of Top: 00-08-08, Bottom: 00-08-08.

# Connection Diagram: Full Length of Member



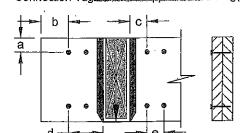
a minimum = 2" b minimum = 3"

c = 7-7/8" d= 8 "

Calculated Side Load = 399.5 lb/ft Connectors are: 16d 7 / Nails 314" ARDOX' SPIRAL

# Connection Diagrams: Concentrated Side Loads

Applies to load tag(s): 12+13+14 Connection Tag: A



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

e minimum = 4"

Connectors are:

ARDUX SPIRAL



STRUCTURÁL COMPONENT ONLY

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# Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

# 2ND FLR FRAMING\Dropped Beams\B5 DR(i2016) (Dropped Beam)

BC CALC® Member Report

**Build 7773** 

Dry | 1 span | No cant.

April 29, 2021 07:43:58

Job name:

Address:

City, Province, Postal Code: HAMILTON

File name:

SPRINGFIELD 3 EL 1.mmdl

Description: 2ND FLR FRAMING\Dropped Beams\B5 DR(i2016)

Specifier:

Designer:

ΑJ

Customer: CCMC 12472-R Code reports:

Company:

<u>/                                    </u>	<u> </u>	_ +	<u> </u>	4	<b>,</b> 4	<u> </u>		<b>,</b>	V	<u> </u>	<u>↑</u> ↑	1		<u> </u>	<del> </del>		₩.		Ţ	Į Į	. ↓	Ţ	+	Ţ	¥
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			( <u>, (</u> %)	anto, Ange	2014. D. C	· The Albert	Cost hilosoph	33, 35	ade vijila	W. S. J.	Ser Galling	<u> </u>	Sept 1	100 J. 100					11.00	desir and		1978	47.1.	<u> </u>	2 - 50

#### Total Horizontal Product Length = 10-02-00

Reaction Sur	nmary (Down / Up	olift) (lbs)	4	•	• •
Bearing	Live	Dead	Snow	VVind	
B1, 4"	2594 / 0	1392 / 0			
B2, 4"	3198 / 0	1719 / 0			

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-02-00	Тор		14			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	09-10-06	Тор	373	187			n\a
2	B6(i2009)	Conc. Pt. (lbs)	L	06-10-04	06-10-04	Top	2112	1125			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	17479 ft-lbs	36222 ft-lbs	48.3%	1	06-10-04
End Shear	6606 lbs	17356 lbs	38.1%	1	09-00-08
Total Load Deflection	L/445 (0.259")	n\a	53.9%	4	05-02-14
Live Load Deflection	L/684 (0.169")	n\a	52.6%	5	05-02-14
Max Defi.	0.259"	n\a	n\a	4	05-02-14
Span / Depth	12.2				

Bearli	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Wall/Plate	4" x 5-1/4"	5632 lbs	20.1%	22.0%	Spruce-Pine-Fir	_
B2 ·	Wall/Plate	4" x 5-1/4"	6946 lbs	24.8%	27.1%	Spruce-Pine-Fir	

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

CONFORMS TO OBE 2012

Resistance Factor phi has been applied to all presented results per CSA O86.

Resistance Factor phi has been applied to all presented results per CSA 086.

\*\*BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Calculations assume unbraced length of Top: 00-08-08, Bottom: 10-02-00.



STRUCTURAL COMPONENT ONLY





# Triple 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLR FRAMING\Dropped Beams\B5 DR(i2016) (Dropped Beam)

Dry | 1 span | No cant.

April 29, 2021 07:43:58

**BC CALC® Member Report Build 7773** 

Job name:

Address:

City, Province, Postal Code: HAMILTON

Customer: Code reports:

CCMC 12472-R

File name:

SPRINGFIELD 3 EL 1.mmdl

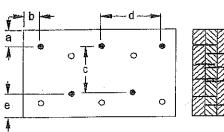
Description: 2ND FLR FRAMING\Dropped Beams\B5 DR(i2016)

Specifier:

Designer:

ΑJ Company:

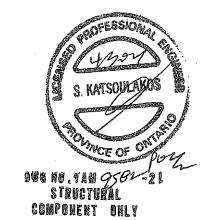
Connection Diagram: Full Length of Member



a minimum = **₫**" b minimum = 3" d = 💯 🖇 e minimum = 2"

Nailing applies to both sides of the member ..... Program Nails Connectors are: "

312" ARDÓX SPIRAL



### **Disclosure**

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BC CALC®, BC FRAMER® , AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



COMPANY

Mar. 18, 2021 09:06

**PROJECT** 

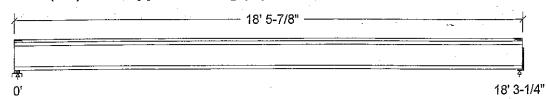
J1 1ST FLOOR.wwb

# Design Check Calculation Sheet Nordic Sizer – Canada 7.2

# Loads:

Load	Туре	Distribution	Pat-	Location	[ft]	Magnitude	Unit
			tern	Start	End	Start En	d
Load1	Dead	Full Area				20.00	psf
Load2	Live	Full Area				40.00	psf

# Maximum Reactions (lbs) and Support Bearing (in):



					·
Unfactored: Dead	183				183
Live	365				365
Factored:	777				777
Total	777		· · · · · · · · · · · · · · · · · · ·		l '' <u>'</u> ]
Bearing:					
Capacity	2101				2048
Joist	3971				2040
Support Des ratio	39/1				
Joist	0.37				0.38
Support	0-20				
Load case	r			1	#2
Length	2-3/8				2
Min req'd	1-3/4				1-3/4
Stiffener	No	•			No
KD	1.00				1.00
KB support	1.00				- [
fcp sup	769				
Kzcp sup	1.09				

# Nordic Joist 11-7/8" NI-40x Floor joist @ 12" o.c. Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Hanger;

Total length: 18' 5-7/8"; Clear span: 18' 1-1/2"; 3/4" nailed and glued OSB sheathing This section PASSES the design code check.



polle

STRUCTURAL COMPONENT ONLY

Page 2

J1 1ST FLOOR.wwb

#### Nordic Sizer - Canada 7.2

# Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 777	Vr = 2336	lbs	Vf/Vr = 0.33
Moment(+)	Mf = 3547	Mr = 6255	lbs-ft	Mf/Mr = 0.57
Perm. Defl'n	0.13 = < L/999	0.61 = L/360	in	0.21
Live Defl'n	0.25 = L/869	0.46 = L/480	in	0.55
Total Defl'n	0.38 = L/579	0.91 = L/240	in	0.41
Bare Defl'n	0.30 = L/740	0.61 = L/360	in	0.49
Vibration	Lmax = 18'-3.3	Lv = 19'-6.3	ft	0.94
Defl'n	= 0.029	= 0.034	in	0.85

#### Additional Data:

FACTORS:	f/E	KD	. KH	KZ	KL	KT	KS	KÑ	LC#
Vr			1.00	_	_	_	_	_	#2
Mr+	6255	1.00	1.00	-	1.000	_	-	_	#2
	371.1 n					_	-	_	#2

#### CRITICAL LOAD COMBINATIONS:

Shear :	LC #2	= 1.25D + 1.5L
Moment(+):	LC #2	= 1.25D + 1.5L
Deflection:	LC #1	= 1.0D (permanent)
	LC #2	= 1.0D + 1.0L (live)
	LC #2	= 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)
: Support 1 - LC #2 = 1.25D + 1.5L
Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth, groundwater E=earthquake L=live(use, occupancy) Ls=live(storage, equipment) f=fire

Load Patterns: s=S/2 L=L+Ls =no pattern load in this span All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS

Bearing

Eleff = 443.45 lb-in^2 K= 6.18e06 lbs

"Live" deflection is due to all non-dead loads (live, wind, snow...) COMPARMS TO DBC 2012

# Design Notes:

AMENDED 2020

- 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



# NORDIC STRUCTURES

COMPANY

Mar. 18, 2021 09:06

PROJECT

J6 1ST FLOOR.wwb

·安全的对话的 40% 对心脏的现在分词 图像中心的

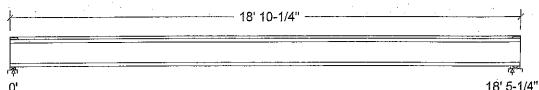
# **Design Check Calculation Sheet**

Nordic Sizer - Canada 7.2

# Loads:

Load	Туре	Distribution	Pat-	Location	[ft]	Magnitude		Unit
			tern	Start	End	Start	End	
Load1	Dead	Full Area		-		20.00		psf
Load2	Live	Full Area				40.00		psf

# Maximum Reactions (lbs) and Support Bearing (in):



	0'	<b>1</b>	8' 5-1/4"
Unfactored: Dead Live	184 369		184 369
Factored: Total	784		784
Bearing: Capacity Joist Support	2188 5573		2336 10841
Des ratio Joist Support	0.36 0.14		0.34
Load case Length Min req'd	#2 2-3/8 1-3/4		#2 4-3/8 1-3/4
Stiffener KD KB support	No 1.00 1.00	•	1.00 1.00
fcp sup  Kzcp sup	769 1.09		769 1.15

# Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Sill plate, No.1/No.2

Total length: 18' 10-1/4"; Clear span: 18' 3-1/2"; 3/4" nailed and glued OSB sheathing

This section PASSES the design code check.

# Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 784	Vr = 2336	lbs	Vf/Vr = 0.34
Moment(+)	Mf = 3612	Mr = 11609	lbs-ft	= 0.31
Perm. Defl'n	0.10 = < L/999	0.61 = L/360	in 🏄	0.16
Live Defl'n	0.19 = < L/999	0.46 = L/480	in 🕼	0.42
Total Defl'n	0.29 = L/765	0.92 = L/240	in 💋	4/201 3.31
Bare Defl'n	$0.22 = \langle L/999 \rangle$	0.61 = L/360	in 🎉	35
Vibration	Lmax = 18'-5.3	Lv = 21'-2.7	in in ft	S. KATSOULANDS 5 87
Defl'n	= 0.024	= 0.034	in 🖼 '	0/71
Derr 11	1 00022			

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COMPUNENT UNTA

# J6 1ST FLOOR.wwb

# Nordic Sizer - Canada 7.2

Page 2

Additiona	ıl Data:				•				-		
FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#		
Vr	2336	1.00	1.00	_	_	-	-	***	#2		
Mr+	11609		1.00	-	1.000	_		_	#2		
EI	547.1 m		-	-	_	_	-	-	#2		
	OAD COMB										
Shear	: LC #2	= 1.25	5D + 1.55		•						
Moment(+	) : LC #2	= 1.25	5D + 1.5	L							
Deflecti	on: LC #1	= 1.01	) (perma	anent)					•		
	LC #2	= 1.01	) + 1.0L	(live	)						
	LC #2	= 1.01	) + 1.0L	(tota.	L)						
	LC #2	= 1.01	+ 1.0L	(bare	joist)			*			
Bearing	: Suppo	rt 1 - 1	GC #2 = 1	1.250 +	1.5L	.*					
	Suppo	rt 2 - 1	C #2 = :	T.25D +	T.OF	d+ a =	. F-cawt	· h our n le o			
Load Typ	es: D=dea	d W≕Wlr	na S=sno	ow H=ea	arth, grou	mawater	nmont)	f-fire			
	T=T1A	e (use, oc	ccupancy	) rs=r	ive(stora	iye,equi	.pment)	T-TTT6	-		
Load Pat	terns: s=	S/2 L=1	.+∟S _≕	no patte	ern road in the An	alveie	output				
	Combinat	ions (LC	us) are .	iistea .	rii cile vii	атуртъ	output				
CALCULAT	IONS:		z C 10.	-AC 1ha							
Eleff ≖	625.37 lb	-in^Z i	(= 0.186	500 TDS	d loads /	limo w	dad enc			ma 0 ma	6814
"Live" d	leflection	is aue	to all I	non-dead	LOAGS (	TING, W	THU, SH	www GUN	FUNMS	TO UBG	2012
											_

Design Notes:

AMENDED 2020

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect-information, specifications, and/or-designs-furnished, and-the correctness-or-accuracy-of-this-information-is-their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



ers no. tam 9566-21 Structural Component only NORDIC STRUCTURES COMPANY

Mar. 18, 2021 09:07

PROJECT

J3 2ND FLOOR.wwb

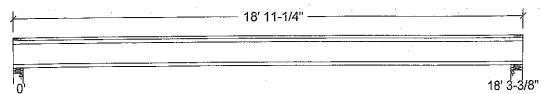
# **Design Check Calculation Sheet**

Nordic Sizer – Canada 7.2

# Loads:

Load	Type	Distribution	Pat-	Location	[ft]	Magnitude		Unit
2000	1		tern	Start	End	Start	End	
Load1	Dead	Full Area				20.00	-	psf
Load2	Live	Full Area				40.00		psf

# Maximum Reactions (lbs) and Support Bearing (in):



	'o'	18	3' 3-3/8"
Unfactored: Dead Live	183 366		183 366
Factored: Total	777		777
Bearing: Capacity Joist Support Des ratio Joist	2336 10829 0.33		2336 12995 0.33
Load case Length Min req'd Stiffener KD KB support fcp sup Kzcp sup	007- #2 4-3/8 1-3/4 No 1.00 - 769		#2 5-1/4 1-3/4 No 1.00 - 769

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

# Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Wall, No.1/No.2

Total length: 18' 11-1/4"; Clear span: 18' 1-5/8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

# Limit States Design using CSA 086-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 777	Vr = 2336	lbs	Vf/Vr = 0.33
Moment(+)	Mf = 3551	Mr = 11609	lbs~ft	WITHER = 0.31
Perm. Defl'n	0.09 = < L/999	0.61 = L/360	in 🎻	ROFESSION 0.16
Live Defl'n	0.19 = < L/999	0.46 = L/480	in 🍆	0.42
Total Defl'n	0.28 = L/770	0.91 = L/240	in in	4 1907 60.31 34 KATSOULANDS 89
	$0.21 = \langle L/999 \rangle$	0.61 = L/360		20.34
Bare Defl'n	Lmax = 18'-3.4	$T_{yy} = 20' - 5.8$	ft 0	KATSOULAKOS \$ 89
· =	= 0.026	= 0.034	in 🔁	01.76
Defl'n	0.020			

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# J3 2ND FLOOR.wwb

# Nordic Sizer - Canada 7.2

Page 2

Additiona	l Data:									
FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#	
Vr	2336	1.00	1.00	-	-	_	-	~-	#2	
Mr+	11609	1.00	1.00	-	1.000	_		_	#2	
	547.1 mi			<del>-</del> ·	_	~-	_	_	#2	
CRITICAL L	OAD COMBI	NATIONS	3:		•					
Shear			5D + 1.5I							
Moment(+	) : LC #2	= 1.25	5D + 1.5L	ı			•			
Deflecti	on: LC #1						100			
	LC #2	= 1.01	) + 1.0L	(live)						
			0 + 1.0L	•						
			) + 1.0L					1		
Bearing					1.5L		6.5			
			LC #2 = 1					•		
Load Typ	es: D=dead									
					ve(stora			f=fire		
	terns: s=S									
	Combinati	ons (LO	Cs) are l	isted i	n the Ana	alysis	output			
CALCULATI		,			•					
Eleff =	613.27 lb- eflection	in^2 F	(= 6.18e	06 lbs						
	aflootion	10 000	to all n	on-dead	losde /1	1770 14	ind one	31.2 l		

# Design Notes:

AMENDED 2020

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect-information, specifications, and/or-designs-furnished, and-the-correctness-or-accuracy-of-this-information-is-their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



NORDIC STRUCTURES COMPANY

Mar. 18, 2021 09:08

**PROJECT** 

J3 2ND FLOOR ABOVE GARAGE.wwb

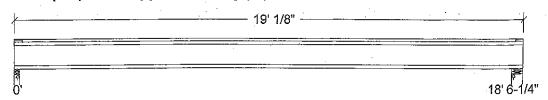
# **Design Check Calculation Sheet**

Nordic Sizer – Canada 7.2

# Loads:

Load	Туре	Distribution	Pat-	Location	[ft]	Magnitude		Unit
			tern	Start	End	Start	End	
Load1	Dead	Full Area				20.00		psf
Load2	Live	Full Area				40.00		psf

# Maximum Reactions (lbs) and Support Bearing (in):



Unfactored: Dead Live	185 370	185 370
Factored: Total	787	787
Bearing: Capacity Joist Support	2188 5573	2336 12995
Des ratio Joist Support	0.36 0.14	0.34
Load case Length Min req'd Stiffener		#2 5-1/4 1-3/4 No
KD KB support	1.00	1.00
fcp sup Kzcp sup	769 -	769

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

# Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Wall, No.1/No.2

Total length: 19' 1/8"; Clear span: 18' 4-1/2"; 5/8" nailed and glued OSB sheathing

This section PASSES the design code check.

# Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 787	Vr = 2336	lbs	Vf/Vr = 0.34
Moment(+)	Mf = 3645	Mr = 11609	lbs-ft	0.31
Perm. Defl'n	0.10 = < L/999	0.62 = L/360	in	Q.16
Live Defl'n	0.20 = < L/999	0.46 = L/480	in 🦸	<b>6</b> 0 43
Total Defl'n	0.30 = L/743	0.93 = L/240	in 💋	H/201 632
Bare Defl'n	0.22 = < L/999	0.62 = L/360	in S	0836
Vibration	Lmax = 18'-6.3	Lv = 19'-11	ft 9	S. KATSOULANDS 0 3 3
Defl'n	= 0.028	= 0.034	in_	0.84

NO. FAM 9568 P2 STRUCTURAL

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Nordic Sizer - Canada 7.2

Page 2

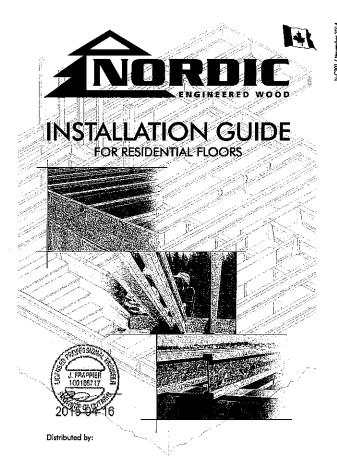
						<del></del>				
Additiona	l Data:									
	f/E	KD	KH	KZ	$\mathtt{KL}$	KT	KS	KN	LC#	
Vr	2336	1.00	1.00	_	-	_	-	_	#2	
Mr+	11609	1.00	1.00	-	1.000			_	#2	
EI	547.1 m	illion	-	_	_	-	-	-	#2	
CRITICAL L	OAD COMBI	INATIONS	3:							
	: LC #2		5D + 1.5I	L						
Moment(+	) : LC #2	= 1.25	5D + 1.51	L						
Deflecti	on: LC #1	= 1.01	D (perma	anent)						
	LC #2	= 1.01	D + 1.0L	(live)	)					
	LC #2	= 1.01	0 + 1.0L	(total	L)					
	LC #2	= 1.01	D + 1.0L	(bare	joist)					
Bearing	: Suppo	rt 1 - I	LC #2 = 3	1.25D +	1.5L					
_	Suppo	rt 2 - 1	LC #2 = 1	1.25D +	1.5L					•
Load Typ	es: D=dea	d W=wi	nd S=sno	ow H=ea	arth, grou	ndwater	E=ear	thquake		
	L=liv	e(use,o	ccupancy)	) Ls=li	lve(stora	ge,equi	pment)	f=fire		
Load Pat	terns: s=	S/2 L=1	L+Ls <u>_</u> =r	no patte	ern load	in this	span			
All Load	Combinat	ions (L	Cs) are l	listed i	in the An	alysis	output			
CALCULATI										
Eleff =	613.27 lb	-in^2 ]	K≔ 6.18¢	e06 lbs						
"Live" d	eflection	is due	to all r	non-deac	l loads (	live, w	ind, sno	ow) con	FORMS T	0 0BG 2012
		·····			,					

Design Notes:

AMFADED 2020

- 1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or-designs-furnished, and the correctness-or-accuracy-of-this-information-istheir responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.





# FSC

J. FRAPPISH

### SAFETY AND CONSTRUCTION PRECAUTIONS

ursheathed I-joists. Once sheathed, do no

l-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed. Avoid Accidents by Following these Important Guidelines:

Brace and noil each I-joist as it is installed, using hongers, blacking panels, rim board, and/or cross-bridging of joist ends. When I-joists are applied continuous over interior supports and a load-hearing wall is planned at that location, blacking will be required at the interior support.

2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the Lipiots. Until this sheathing is opplied, temporary bracing, often colled struts, or temporary sheathing must be applied to prevent Lipids rollover or buckling.

■ Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2\* noise fastened to the top surface of each i-joist. Nail the bracing to letter letsrich at the end of each bay. Lap ends of adjaining bracing over at least two i-joists.

Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of Lioists at the end of the bay.

For confilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.

 Install and fully notifipermanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only. 5. Never install a damaged 1-joist.

Improper storage or installation, failure to follow applicable building cades, failure to follow spon rotings for Nordic Lipiais, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when require can result in serious accident. Follow these installation guidelines corefully.

### MAXIMUM FLOOR SPANS

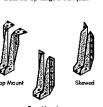
- 1. Maximum deer spans applicable to simple-span or multiple-span residential floor construction with a design like load of 40 per and dead boad of 15 per The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The seniceability limit states include the consideration for floor vibration and a live load deflection limit of U480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 linch for a joist spacing of 19-2 inches or less, or 3/4 linch for joist spacing of 24 inches, Adhesive shall meet the requirements given in COBS-71.26
   Standard. No concrete tapping or bridging element was assumed. Increased spans may be achieved with the used of gypsum and/or a row of blocking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This spon chart is based on uniform loads. For applications
  with other than uniform loads, an engineering analysis may
  be required based on the use of the design properties.
- Tables are based on Limit States Design per CAN/CSA OB6-09 Standard, and NBC 2010.
- 7. Si units conversion: 1 inch = 25.4 mm 1 foot = 0.305 m

# MAXIMUM FLOOR SPANS FOR NORDIC 1-JOISTS SIMPLE AND MULTIPLE SPANS

			Simple	spans			Multipl	e spans	
Joist Depth	Joist Series		On centr	e spacing			On centr	e spacing	
мери	Jeries	12"	16"	19.2	24"	12"	16"	19.2"	24"
1,000	総NEO認	15-1	4-2*	13'-9'	13'-5"	16'-3'	15:41	14'-10"	14.7
	@NF40x3	16-1	15-2	1448"	14'-9"	17-5	16'-5"	15'-10"	15'-5'
9-1/2	JAN 180	16'-3'	15-4	14/210	14'-11"	17-7'	16'-7'	16'-0"	16'-1'
	SNF70	.17'-1"	16-1	15'-6"	15'-7'	18-7	17-4	16'-9"	16-10
NEW YORK	器 NI-BOX	17-3	16'-3"	15'-8"	15'-9'	18-10	17'-6'	16-11	17-0
	20 X	16-11	16-0	15'-5"	15'-6'	18'-4"	17-3	16'-8'	16-7
the second	SINK40X	18-1	17'-0"	16'-5"	16'-6"	20-0	18'-6"	. 17:-9*	17:7
150	SNE60	18'-4'	17-3	16'-7"	16'-9"	20-3	18-9"	18'-0'	18-1
M11-7/82	NI-70%	19-6	18'-0'	17'-4"	17'-5'	21-6"	19-11	19-0	19-1
	₩ N#BO	19-9	18-3'	17'-6"	17'-7'	21.9	20-2	19-3	. 19-4
	墨N190家	20'-2"	18'-7"	17'-10"	17'-13'	22-3*	20'-7"	19'-8'	19-9
	感N的成合	20'-4	18'-9"	17-11	18'-0"	22-5	20'-9"	19-10	19-1
475117	海 NE40X底	20-1	18-7	17'-10	17'-11'	22-2	20'-6"	19'-8'	19'-4'
450	SN 502	20-5	16-11	18'-1"	18'-2"	22-7	20'-11'	20'-0'	20-1
1002	\$2 NI-20 (#	21'-7"	20-0	19'-1"	19-2	23-10	22-1*	21'-1'	21'-2'
Sec.	NI <sub>H</sub> 0	21'-11*	20-3	19'-4'	19:5"	24-3	22-5	21'-5'	21'-6'
	SINE 90%	22-5	20-8	19'-9'	19:10"	24'-9'	22-10	21'-10'	21'-10
	<b>送NE90</b> (議	22-7	20'-11'	19'-11'	20'-0"	25-0	23-1"	22'-0"	22-2
	SENI-60**	22'-3'	20-8	19'-9'	19'-10'	24-7	22-9'	211-9	21'-10
	(MAXION AND AND AND AND AND AND AND AND AND AN	23'-6"	21-9	20-9,	20-10	26'-0'	24-0	22-11	23'-0'
10	NL40	23'-11"	22 1	21'-1"	2112	26'-5'	24'-5"	23'-3"	23'-4'
CONTRACTOR OF THE	N. 90	24'-5'	22'-6"	21'-5'	21-6	26'-11	24'-10'	23'-9"	23'-9'
	SENT-80%	24'-8"	22-9	21'-9"	21'-10'	27 3'	25'-2"	24'-0'	24'-1'

### I-JOIST HANGERS

- . Hangers shown illustrate the three most commonly used metal hangers to support I-joists.
- 2. All nailing must meet the hanger
- Hongers should be selected based on the joist depth, Range width and load copacity based on the maximum spans.
- 4. Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.



Face Moun

# STORAGE AND HANDLING GUIDELINES

- Bundle wrap can be slippery when wet. Avoid walking on wrapped
- 3. Always stack and handle I-joists in the upright position only. —
- 4. Do not store I-joists in direct contact with the ground and/or flatwise.
- 5. Protect I-joists from weather, and use spacers to separate bundles. -
- 6. Bundled units should be kept intact until time of installation.
- When handling I-joists with a crone on the job site, take a few -simple precautions to prevent damage to the I-joists and injury to your work crow.
- Pick i-joists in bundles as shipped by the supplier
- Orient the bundles so that the webs of the I-jaists are vertical.
- Pick the bundles at the 5th points, using a spreader bar if necessary.
- 8. Do not handle l-joists in a horizontal arientation.
- P. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

# WEB STIFFENERS

### RECOMMENDATIONS:

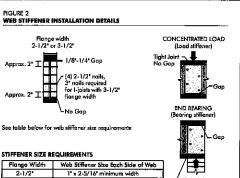
■ A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the li-joist properties table found of the li-joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.

■ A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top fange. The gap between the stiffener and flonge is at the top.

A load stiffener is required at locations where a frectured concentrated load greater than 2,370 lbs is applied to the top Range between supports, or in the case of a cartilever, anywhere between the cantilever ip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitt by the code. The gap between the stiffener and the flange is at the bottom.

SI units conversion: 1 inch = 25.4 mm

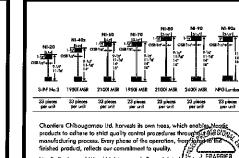
①



ⅎ

attachment per detail 1 b

3-1/2" 1-1/2" x 2-5/16" minimum width



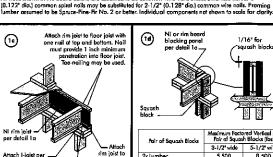
NORDIC I-JOIST SERIES

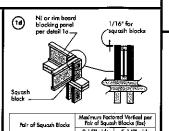
Nordic Engineered Wood I-joist use only finger-jointed back at EA PPPER lumber in their flanges, ensuring consistent quality, superior strategies and the strategies of the st longer span corrying capacity. (A)

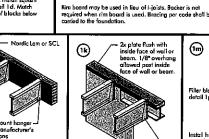
# INSTALLING NORDIC I-JOISTS

- 1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, continued
- 2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
- 3. Install 1-joists so that top and bottom flunges are within 1/2 inch of true vertical alianment.
- I-joists must be anchored securely to supports before floor sheathing is attached, and supports to be level.
- 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate be 6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
- 7. Leave a 1/16-inch gap between the I-joist end and a header.
- 6. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flags. Normal concentrated loads include track lighting fixtures, audio equipment and security cornerss. Never suspend unusual or heavy loads from the I-joist's bottom flangs. Whenever possible, suspend off concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
- 9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with
- 10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or L-joist blocking panels.
- 11. For I-joists installed over and beneath bearing walls, use full depth blacking panels, rim board, or squash blacks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
- 12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or nim boards. Lipist blocking panels or other engineered wood products such as rim board must be cut to fit between the Lipists, and an Lipist compatible depth selected. 13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support fite bottom flange of all cantilevered I-joists at the end support next to the cartilever extension. In the completed structure, the gypsum wellboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
- 14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squedxs. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate undertayment layer is installed.
- 15. Noil spacing: Space noits installed to the flange's top face in accordance with the applicable building code requirements of approved building plans.

# TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS Some framing requirements such as erection bracing and blacking panels have been omitted for clarity. Figures 3, 4 or 5 Holes may be cut in wel for plumbing, wiring and duct work. See Tables 1, and Figure 7. (1) (1) (19) NOTE: Never cut or Nordic Lam or Structural (b) (t) -(1p)-00000 $\Theta$ All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3°







Use single I-joint for loads up to 3,300 plf, double I-joint for loads up to 6,600 plf filler block not required). Attach I-joint to plate using



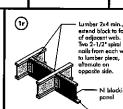
Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

nstall hanger per ...... nanufacturer's

(Im)

2-1/8" x 6"

2-1/8' x 12'



Note: Blacking required at bearing for lateral support, not shown for darity.

(TI)

l-joist per detail 1 b

Optional: Minimum 1x4 inch -

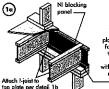
(1h) Backer black (use if hanger load exceeds 360 lbs)
Before installing a backer black to a double I joist, drive three
additional 37 realist through the webs and filler black where the
backer black will fit. Clinch, Install backer Sight to top finage. resistance for hanger for this detail = 1,620 lbs. -Double I-joist header -

or hanger capacity see hanger manufacturer's recommendations erify double 1-joist capacity to support concentrated loads.

BACKER BLOCKS (Blocks must be long enough to permit required

nalling without spi	ming)	
Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2°	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lamber and wood structural panels conformin to CAN/CSA-O325 or CAN/CSA-O437 Standard. For face-mount hanges use net joist depth minus 3-1/4\* for joists with 1-1/2\* thick flanges. For 2\* thick flanges use net depth minus 4-1/4\*.



2-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing

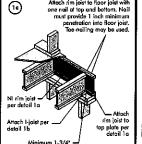
Blocking Funel or Rim Joist Maximum Factored Vertical Load\* (

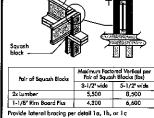
"The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration it shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1 d.



— Altach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c. To avoid splitting flange, start nails at least 1-1/2' from end of 1-joist. Nails Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.

The uniform vertical load is finited to a rim board depth of 16 inches or less and is based on standard term load ducation. It shall not be used in the design of a bending member, such as joid, header, or rafter. For concentrated vertical load transfer, see detail 1d.





# 19

For nailing schedules for multiple beams, see the manufacturer's

Note: Unless banger sides laterally support the top flange, bearing stiffeners shall be used.

\_1/8" to 1/4" gap between top flange and filler block

Flange Joist Filler Size Depth Block Size Leave a 1/8 to 1/4-inch gap between top of filler black and bottom of top I-joint 9-1/2 )-1/2 11-7/8' 14' 16'

2-1/2" x 1-1/2"

3-1/2°x 1-1/2°

3-1/2°× 11-7/6 2° 14° 16°

9-1/2' 11-7/8' 14' 16'

 Filter black is required between joists for full length of span. Nail joist together with two rows of 3"
nails at 12 inches o.c. (clinched when
possible) on each side of the double 1-joist.
Total of four nails per foot required. If nails
can be clinched, only two nails per foot
ore required.

extend block to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece, alternate on

strap applied to underside of joist at blacking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

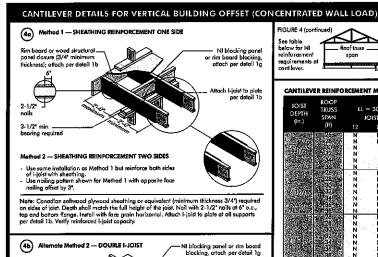
—One 2-1/2' nails at top and bottom flange Two 2-1/2" nails from each web to lamber piece

-2x4 min. (1/8" gap minimum Two 2-1/2" nails from each web to lumber piece One 2-1/2" nails one side only 2-1/2" nails at 6" a.c.

Notes:

In some local codes, blocking is prescriptively required in
the first joist space (or first and second joist space) next to
the starter joist. Where required, see local code requirement
for spacing of the blocking.

All nails are common spiral in this detail.



8 C. C. 1) also 10

> Face nail two rows of 3° nails at 12° a.c. each side through one L-joist web and the filler block to other L-joist web. Offset nails from apposite face by 6°. Clinch if possible Attach I-joists to top plate at all supports per -detail 1b, 3-1/2 min. bearing

Block I-joists together with filler blocks for the full length of the reinforce For I-joist flange widths greater than 3 inches place an additional row of 3" noils along the centreline of the reinforcing panel from each side. Clinch when possible.

3-1/2" min.

Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Noil with 2-1/2" noile at 6" o.c., top and bettom flonge. Install with face grain harizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.

5b SET-BACK DETAIL

structural panel closure (3/4" minimum thickness),

Notes:

Provide full depth blocking between joists over support (not shown for darity)

Attach i-joist to plate at all supports per detail 18.

3-1/2\* minimum i-joist

(5c) SET-BACK CONNECTION

Vertical solid sown blocks (2x6 S-P-F No. 2 or better) nailed through joist web and web of girder using 2-1/22 nails. Alternate for opposite side.

Verify girder joist capacity if the back span

exceeds the joist spacing. Attach double I-joist per detail 1p, if required.

# For hip roofs with the jack trusses running parallel to the contilevered floor joists, the L-joist reinforcement requirements for a span of 26 ft. shall be permitted to be used. Roof trusses Girder Roof truss Span 13'-0" maximum Jack trusses truss 52'-0" maximum contilever

CANTILEVER REINFORCEMENT METHODS ALLOWED UL = 50 asf. DL = 15 asf LL = 30 psf. DL = 15 psfLL = 40 psf. DL = 15 psf12 16 19.2 24 12 16 19.2 24

- N = No reinforcement required.

  1 = NI reinforced with 3/4\* wood structural
- 1 = NI reinforced with 3/4" wood structural panel on one side only.
  2 = NI reinforced with 3/4" wood structural panel on both sides, or double 1-joist.
  X = Try a deeper joist or closer spocing.
  2 Maximum design load shall be 1 Ts per noot dead load, 55 per floor total load, and 80 pif well load. Wall load is based on 3-0" maximum width window or door openings.
- For larger openings, or multiple 3:0° width openings spaced less than 6:0° o.c., additional pixels beneath the openings crapple study may be required.

  Table upplies to plats 12° to 24° o.c. that meet the floor span requirements for a design live load of 10 pt and decid code of 15 pt, and a live load deliction limit of UA60. Use 12° o.c. requirements for load of 12° o.t. and 12° o.c. requirements for less repairing. For conventional roof construction using a ridge beam, the Roof Truss Span column reen the supporting walls as if a
  - distance between the supporting walls as if a trust is used.

    Somitivered joint supporting girder trusses or roof beams may require additional reinforcing.

# BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD) For hip roofs with the jack trusses running parallel to the cantilevered floor joists the 1-joist reinforcement Roof trusses Roof truss Roof truss 13'-0' maximur Jack trusses 2'-0' maximum maximum \_\_ Roof truss \_\_\_\_\_ \( \frac{7}{2'-0'} \) span irements for a span of 26 ft, shall be permitted to —Nail reinforcement to to and bottom joist flonges with 2-1/2" nails at 6" o.c. (offset apposite face nailing by 3" when using reinforcement on both sides of I-joist) BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED LL = 50 psf, DL = 15 psf TRUSS SPAN (fi) Lt. = 30 psf. DL = 15 psf ll = 40 psf, Dl = 15 psf16 19.2 24 16 19.2 24 100108217 Nail joist end using 3° nails, toe-nail at top and bottom flanges. For longer openings, or multiple 3:-0" width openings space das short 6:0" c.c., additional joids beneath the opening's cripple study may be required. State applies to joids 1:0 24" c.c. that meet the control of the 4. For conventional roof construction using a nidge beam, the food first span column above is equivalent to the distance between the supporting wall and the ridge beam. We have been supporting the beam of the supporting wall and the ridge board, the loss of the supporting walls as if a distance between the supporting walls as if a true is used. 1 = Ni reinforced with 3/4" wood structural posed on one side only. 2 = Ni reinforced with 3/4" wood structural posed on both sides, or double I-joist. X = Try a desper joist or closer specing. 2. Maximum design lood shell be 15 psf root deed lood, 55 psf floor heed lood, and 80 psf well lood. Wolf lood is based on 3 °0" maximum width window or door openings. distance season. fruss is used. 5. Contilevered joids supporting girder trusses or roof beams may require additional reinforcing a live load deflection limit of L/480. Use 12" o.c. requirements for lesser specing.

### WEB HOLES

### RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- 2. I joist top and bottom flanges must NEVER be cut, noticed, or otherwise modified
- Whenever possible, field-cut holes should be centred on the middle of the web. The maximum size hole or the maximum depth of a duct chose opening that con be out into an I-joist web shall equal the clear distance between the flanges of the I-joist minus I/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.
- The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- 6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole for twice the length of the langest square hole for whice the langest rectangular hole or duct chase appearing) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignated for purposes of calculating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to
- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it
  meets the requirements of rule number 6 above.
- 10. All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- 11. Limit three maximum size holes per span, of which one may be a duct chase

FIELD-CUT HOLE LOCATOR

A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hale circumscribed around them.

length or hole diameter, whichever is larger

3/4x diameter

Maintain minimum 1/8' space between top and bottom flange — all duct chase openings and holes

Duct chase opening (see Table 2 for minimum distance from bearing)

# TABLE 1 LOCATION OF CIRCULAR MOLES IN JOIST WEBS Simple or Multiple Span for Dead Loads up to 15 paf and Live Loads up to 40 paf



Above table may be used for 4-joist spacing of 24 laches on centre or less.
 Hole location distance is measured from lacide face of supports to centre of hol.
 Distances in this thart are based on uniformly located joists.

Knockouts are prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the lobst. Where possible, it is preferable to use knockouts instead of field-out holes.

For rectingular holes, twoid over-cutting the comers, as this can cause unnecessariess consentations. Slightly rounding the comers is recommended. Storing the rectangular hole by drilling a 1-inch diameter hole in each of the four comers and then making the cuts before the holes is another good method to minimize demage to the 1-bots.

Never drill, cut or notch the flange, or over-cut the web.

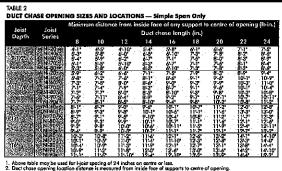
Holes in webs should be cut with a sharp saw.

The above table is based on the 1-joists used at their maximum span. If the 1-joists are placed at less than their full maximum span (see A he minimum distance from the centreline of the hale to the face of any support (D) as given above may be reduced as follows:

D<sub>reduced</sub> = Loctual x D Where:

# SAF Dietonce from the inside foce of any appoint to centre of hole, induced for less than-maximal detections shall not be less than 6 inches from the face of the support to edge of the hole. The octual mounted span distance between the inside faces of supports. Sapon Adjustment Focking size in this table. It institutes a support to centre of hole from this table. It institutes a greater than 1, use 1 in the obove calculation for factural. SAF 2015-04-16

**基本服务** 



1. Above table may be used for I-joint specing of 24 inches an centre or less.
2. Duct chase opening location distrone is received from inside foce of supports to centre of opening.
3. The above table is based on simple-span joint only, for other applications, contact your local distributor.
4. Dishonce are based on uniformly located floor joints that meet the span requirements for a design live local of 40 psf and deed local of 15 psf, and at live load deflection limit of 1480. For other applications, control your local distributor.

# INSTALLING THE GLUED FLOOR SYSTEM

1. Wipe any mud, dirt, water, or ice from I-joist flanges before gluing.

A knockout is **NOT** considered a hole, may be utilized wherever it occurs and may be ignored for purposes of calculating minimum distances between holes.

- 2. Snap a chalk line across the Ljaists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
- Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer. Ley the first panel with tongue side to the wall, and not in place. This protects the tangue of the next panel from damage when tapped into place with a block and sledgehammer.
- 5. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply glue in a winding pattern on wide areas, such as with double I-joists.
- 6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
- 7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line 1/18 inch! than used on Hjoist flanges.
- 8. Top the second row of panels into place, using a black to protect groove edges.
- Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch of all degap, including T&G edges, is recommended. (Use a spacer tool or on 2-1/2\* common nail to assure accurate and consistent spacing.)
- 10. Complete all natiling of such panel before glue sets. Check the manufacturer's recommendations for ours fine. (Warm weather accelerates glue setting.) Use 2' ring- or screw-shock nails for panels 3/4-inch thick or less, and 5-1/2" ring- or screw-shock notine for thicker ponets. Space nails per the table below. Closer not lapacing may be required by some codes, or for diaphragm construction. The finished deak can be walked on right every and will carry construction loads without damage to the

# FASTENERS FOR SHEATHING AND SUBFLOORING(1)

Maximum	Mininum	N	n Spacing			
Joist	Ponel	Common	Ring Thread		of Fa	sleners
Specing (in.)	Thickness (in.)	Wire or Spiral Nails	Nails or Screws	Staples	Edges	interm. Supports
16	5/8	2'	1-3/4"	2"	6"	12'
20	5/6	2'	1-3/4*	2'	6.	12"
24	3/4	2'	1-3/4*	2'	6"	12"

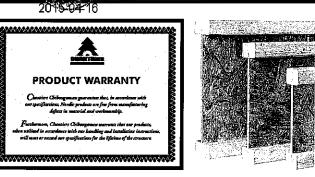
- l. Fasteners of sheathing and subflooring shall conform to the above table.
- 2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing
- 3. Flooring screws shall not be less than 1/8-inch in diameter.
- Special conditions may impose heavy traffic and concentrated loads that require construction in excess
  of the minimums shown.
- 5. Use only adhesives conforming to CAN/CGSB-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sadeled surfaces and edges are to be used, use only solvent-based glues; check with panel manufacturer.

Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:
Floor shackling must be field glued to the I-joist flonges in order to achieve the maximum spans shown in this document. If sheathing is notled only, I-joist spans must be verified with your local distributor.

# RIM BOARD INSTALLATION DETAILS (80) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT Rim board Joint Between Floor Joists 2-1/2" nails at 6" o.c. (typical) Rim board Joint at Corner 2-1/2" toe-nails at 6" a.c. (typical) — Rim board joint — Bb TOE-NAIL CONNECTION AT RIM BOARD 8 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL Existing stud wall -Remove siding at ledger -prior to installation Rim board -Floor sheathing $\ell_{/3}$ 2 min 1 1 Stannered 1/2\* diameter lag screws or thru-bolts with washers >1-5/6' min. 5' mox. 2" min. Deck joist

J. FRAFPIER 100108717



2x ledger board (preservative-treated); must be greater than or equal to the depth of the deck joist





0S9 216" > 4 NL40v NI-20 1950f MSR 2100f MSR 1950f MSR 2100f MSR 2400f MSR NPG Lumber 33 pieces 33 pieces 23 pieces

Refer to the Installation Guide for Residential Floors for additional information CCMC EVALUATION REPORT 13032-R

# **WEB HOLE SPECIFICATIONS**

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- 1. The distance between the inside edge of the support and the centreline of any nole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.

  2. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- 3. Whenever possible, field-cut holes should be centred on the middle of the web.
- 4. The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the 1-inist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

1'-6" 2'-10" 4'-3" 5'-8" 1'-6" 3'-0" 4'-4" 6'-0" 2'-6" 4'-0" 5'-4" 7'-0" 3'-4" 4'-9" 6'-3" 8'-0"

Above table may be used for I-joist spacing of 24 inches on centre or less.
 Hole location distance is measured from inside face of supports to centre of hole.
 Distances in this chart are based on uniformly loaded joists.

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

6-1/4 7

4. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.) Round Hole Diameter (in.)

- 5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hale permitted at that location.
- . Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hale or twice the size of the larges square hale (or twice the length of the langest side of the langest rectangular hale or duct chase opening) and each hale and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.

  A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be
- ignored for purposes of calculating minimum distances between hales and/or duct
- Holes measuring 1-1/2 inches or smaller are permitted anywhere in a contilevered section of a joist. Holes of greater size may be permitted subject to verification.
- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above All holes and duct chase openings shall be cut in a workman-like

NI-80

- manner in accordance with the restrictions listed above and as illustrated in Figure 7. 11. Limit three maximum size hales per span, of which one may be
- a duct chase opening.

  12. A group of round holes at approximately the same location

# shall be permitted if they meet the requirements for a single round hale circumscribed around them.

# **DUCT CHASE OPENING SIZES AND LOCATIONS**

Simple Span Only

1.1.4	1	Minim	um distan	ce from in	side face	of suppo	orts to ce	entre of	pening (	ft - in.)
Joist Depth	Joist Series				Duct Ch	ase Leng	jth (in.)			
		8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-6"	7'-1"	7'-5"
	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	81-2"	8'-6"
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	8'-3"	8'-9"
	NI-70	5'-1"	5'-5"	5'-10"	6'-3"	6'-7"	7'-1"	7'-6"	8'-1"	8'-4"
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	81-2"	8'-6"
	NI-20	5'-9"	6'-2"	6-6	7'-1"	7'-5"	7'-9"	8'-3"	8'-9"	9'-4"
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9-6	10'-1"	10'-9"
	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	10'-3"	11'-0"
11-7/8"	NI-70	7'-1"	7'-4"	7'-9"	8'-3"	8'-7"	9'-1"	9'-6"	10'-1"	10'-4"
	NI-80	7-2	7:-7*	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8"
	NI-90	7-6	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-11'
	NI-90x	7'-7"	8'-1"	8'-5"	8'-10"_	9'-4"	9'-8"	10'-2"	10'-8"	11'-2"
	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7°	11'-2"	12'-0"	12'-8"
	NI-60	8'-9"	9'-3'	9'-8"	10'-1"	10'-6"	11'-1"	11'-6"	13'-3"	13'-0"
	NI-70	8'-7"	9'-1"	9'-5"	9'-10"	10'-4"	10'-8'	11'-2"	11'-7"	12'-3"
14"	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10-7	11'-1"	11'-6"	12'-1"	12'-6"
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"		11'-5"	11'-9"	12'-4"	12'-11"
	NI-90x	9'-4"	9'-9"	10'-3"	10'-7"	1141*	11'-7"	12'-1"	12'-7"	13'-2"
	NI-60	10'-3°	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	14'-1"	14'-10"
	NI-70	10'-1"	10'-5"	11'-0"	11'-4"	11'-10'	12'-3"	12'-8"	13'-3"	14'-0"
16"	NI-80	10'-4°	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14'-4"
	NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-10"
	NI-90x	11'-1"	11'-5"	11'-10"	12'-4"	12'-10'	13'-2"	13'-9"	14'-4"	15'-2"

1		Minimum distance from inside face of supports to centre of opening (ft - in.)								
Joist Depth	Joist Series				Duct Ch	ase Long	th (in.)			
	55,133	8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-6"	7'-1"	7'-5"
	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	81-211	8'-6"
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1	7'-5"	8'-0"	8'-3"	8'-9"
	NI-70	5'-1"	5'-5"	5'-10"	6'-3"	6'-7"	7'-1"	7'-6"	8'-1"	8'-4"
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	81-2"	8'-6"
	NI-20	5'-9"	6'-2"	6'-6"	7'-1"	7'-5"	7'-9"	8'-3"	8'-9"	9'-4"
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	10'-1"	10'-9"
11-7/8"	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	10'-3"	11'-0"
	Ni-70	7'-1"	7'-4"	7'-9"	8'-3"	8'-7"	9'-1"	9'-6"	10'-1"	10'-4"
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10'	9'-3"	9'-8"	10'-2"	10'-8"
	NI-90	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-11"
	NI-90x	7'-7"	8'-1"	8-5	8'-10"_	9'-4"	9'-8"	10'-2"	10'-8"	11'-2"
	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7"	11-2	12'-0"	12'-8"
	NI-60	8'-9"	9'-3'	9'-8"	10'-1"	10'-6"	11'-1"	11'-6"	13'-3"	13'-0"
14"	NI-70	8'-7"	9'-1"	9'-5"	9'-10"	10'-4"	10'-8'	11'-2"	1 1'-7"	12'-3"
14	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10-7	11'-1"	11'-6"	12'-1"	12'-6"
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"	10'-11'		11'-9"	12'-4"	12'-11"
	NI-90x	9'-4"	9'-9"	10'-3"	10'-7"	1141*	11'-7'	12'-1"	12'-7"	13'-2"
	NI-60	10'-3°	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	14'-1"	14'-10°
	NI-70	10'-1"	10'-5"	11'-0"	11'-4"	11'-10'		12'-8"	13'-3"	14'-0"
16"	NI-80	10'-4"	10'-9"	11'-3"	11'-9"	12-1	12'-7"	13'-1"	13'-8"	14'-4°
	NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-10"
	NI-90x	11'-1"	11'-5"	11'-10"	12'-4"	12'-10'	13'-2"	13'-9"	14'-4"	15'-2"

Above table may be used for Lipist spacing of 24 inches an centre or less.
 Duct chase opening location distance is measured from inside face of supports to centre of opening.
 The above table is based on simple-span joists only. For other applications, contact your local distributor.
 Distances are based on uniformly located floor joist that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of 1/480.
 The above table is based on the 1-joist being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

(1<sub>d</sub>)

Flange Width

2-1/2"

3-1/2"

(1k)

Maximum Factored Uniform Vertical Load\* (plf) 3,300 The uniform vertical load is limited to a joist depth of 16

2-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking)

transfer, see detail 1d.

(1h) Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to double Units, drive three additional 30 pails them to the

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O437 Standard.

\* For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges

1-1/2"

For 2" thick flanges use net depth minus 4-1/4".

double I-joist, drive three additional 3" nails through the webs and filler block where the

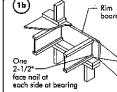
Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and

when possible. Maximum factored resistance for hanger for this detail = 1.620 lbs.

backer block will fit. Clinch. Install backer tight to top flange. Use twelve 3" nails, clinched

inches or less and is based on standard term load duration

It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load



Blocking Panel or Rim Joist Vertical Load\* (pif) 1-1/8" Rim Board Plus The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on

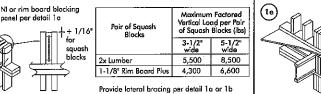
standard term load duration. It shall not be used in the design of a bending member, such as joist,

reader, or rafter. For concentrated vertical load transfer, see detail 1d. One 2-1/2" wire or spiral nail at top and bottom flange

Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c.

To avoid splitting flange, start nails at least 1-1/2" from end of 1-joist Nails may be driven at an anale to avoid splitting of bearing plate.

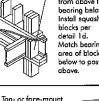
Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.





detail 1d. area of blocks above.

Load bearing wall above shall align vertically with the bearing below. Other conditions, such Blocking required over all interior supports under load-bearing walls or when floor joists are not - NI blocking panel per detail 1a



2-1/2" nails at 6" o.c.

Double I-joist header

NOTE: Unless hanger

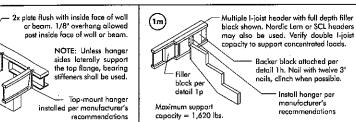
sides laterally support

stiffeners shall be used

(ii) Structural Composite Lumber (SCL) For nailing schedules for multiple peams, see the manufacturer's

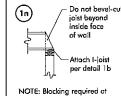
Top- or face-mount hanger Backer block required (both sides for face-

> NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

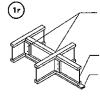


5-1/2°

7-1/4"

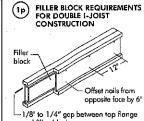


recommendations. Verify double I-joist capacity to support



Lumber 2x4 min., extend black to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece, alternate - NI blocking panel

OPTIONAL: Minimum 1x4 inch strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists



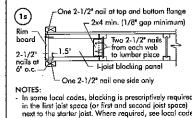


# 1. Support back of I-joist web during nailing to prevent damage to web/flange connection. 2. Leave a 1/8 to 1/4-inch gap between top of filler block. and bottom of top I-joist flange. 3. Filler block is required between joists for full length

 Nail joists together with two rows of 3" nails at 12 inche o.c. (clinched when possible) on each side of the dout I-joist. Total of four nails per foot required. If nails car

clinched, only two nails per foot are required. 5. The maximum factored land that may be applied to a side of the double joist using this detail is 860 lbf/ft. Verify double 1-joist capacity.

	Flange Size	Net Depth	Filler Block Size
	2-1/2" x 1-1/2"	9-1/2" 11-7/8" 14" 16"	2-1/8" x 6" 2-1/8" x 8" 2-1/8" x 10" 2-1/8" x 12"
e oe	3-1/2" x 1-1/2"	9-1/2" 11-7/8" 14" 16"	3" x 6" 3" x 8" 3" x 10" 3" x 12"
е	3-1/2" x 2"	11-7/8" 14" 16"	3" x 7" 3" x 9" 3" x 11"



requirements for spacing of the blacking

All nails shown in the above details are assumed to be common wire nails unless otherwise nated. 3" (0,122" dia. 2-1/2" (0,128" dia.) common wire nalls. Framing lumber assumed to be

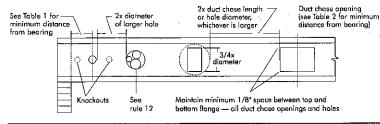
9-1/2"

11-7/8"

NI-60 NI-70

NI-80 NI-90

# FIELD-CUT HOLE LOCATOR





Knackauts are prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the I-joist. Where possible, it is preferable to use knockouts instead of field-cut holes

Never drill, cut or notch the flange, or over-cut the web

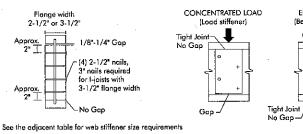
Hales in webs should be cut with a share saw

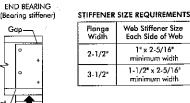
For rectangular holes, avoid over-cutting the carners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the !-ioist.

# **WEB STIFFENERS**

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found of the I-joist Construction Guide (C101). The gap between the stiffener and the flange is a
- A bearing stiffener is required when the I-joist is supported in a hange and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, anywhere between the contilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

# **WEB STIFFENER INSTALLATION DETAILS**





# SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on I-joists until fully fastened and braced, or



Never stack building materials sheathed, do not over-stress

WARNING: I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

Brace and not each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends.
 When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will

2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is compared, are two snearing will provide lateral support for the top flanges of the Ljoists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent Ljoist rollover or buckling. Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and

- must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists. Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
- 3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging. 4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building
- 5. Never install a damaged I-joist.

Improper storage or installation, failure to fallow applicable building codes, failure to follow span ratings for Nardic Ljoists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

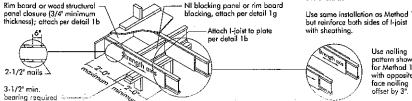


# **PRODUCT WARRANTY**

Chantiers Chibougamau guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Chantiers Chibougamau warrants that our products, oben utilized in accordance with our handling and installation instructions will meet or exceed our specifications for the lifetime of the structure.

# CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET Method 1 — SHEATHING REINFORCEMENT ONE SIDE



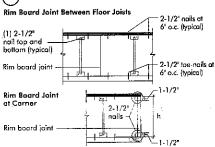
SHEATHING REINFORCEMENT

with sheathing.

Use nailing for Method 1

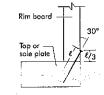
NOTE: Canadian softwood phywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach 1-joist to plate at all supports per detail 1b. Verify reinforced 1-joist capacity.

# **RIM BOARD INSTALLATION DETAILS** (8a) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT





CONNECTION



(8b) TOE-NAIL

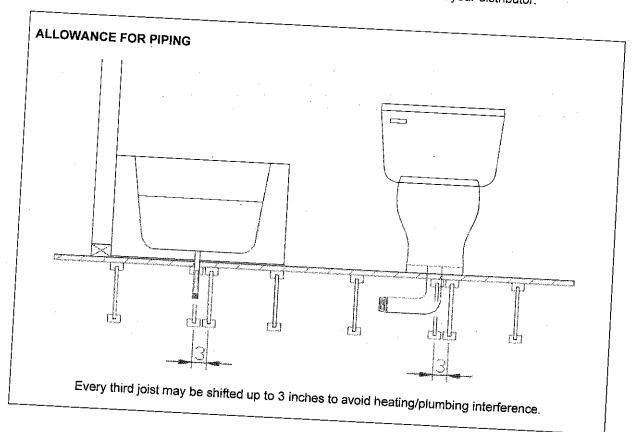


# Allowance for Piping (Installation Notes)

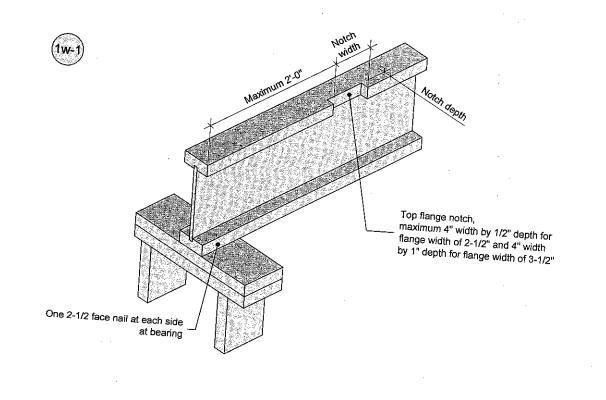
The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the joist spacing exceeds 19.2 inches. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.

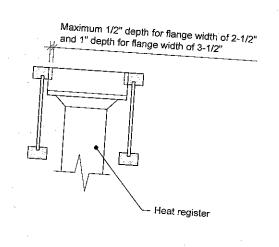
Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced for shorter spans; contact your distributor for additional information.

The detail below shows the 3-inch allowance for piping. Every third joist may be shifted up to 3 inches to avoid heating/plumbing interference. For other applications, please contact your distributor.



Revised April 12, 2012





- Blocking required at bearing for lateral support, not shown for clarity.
- 2. The maximum dimensions for a notch on the side of the top flange are 4-inch width by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch width by 1-inch depth for flange width of 3-1/2 inches.
- 3. This detail applies to simple-span joists and multiple-span joists where the notch is located at the end half-span.

This document supersedes all previous versions. If the document has been in effect for more than one year, consult nordic ca or contact Nordic Structures. All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails, individual components not shown to scale for clarity.

NORDIC STRUCTURES

1 866 817-3418

nordic.ca

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DATE 2018-04-10



Live Load = 40 psf, Dead Load = 30 psf Simple Spans, L/480 Deflection Limit 3/4" OSB G&N Sheathing







			. В	are		Ī	1/2" Gyp	sum Ceiling			
Depth	Series		On Cent	re Spacing			On Centre Spacing				
		12"	16"	19.2"	24"	12"	16"	19.2" 13'.4" 15'.1" 15'.5" 16'.7" 16'.9" 16'.9" 17'.9" 17'.11" 18'.10" 19'.6" 19'.6" 19'.1" 20'.10" 21'.2" 21'.9" 22'.9"	24"		
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"		
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11'		
9-1/2"	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-5"	15 -5"	14'-3"		
	N1-70	18'-0"	16'-11"	16'-3"	15'-6"	18'-5"	17'-3"	16'-7"	15'-6"		
	NI-80	18'-3"	17'-1"	16'-5"	15′-9"	18'-8"	17'-5"	16'-9"	15'-10'		
	NI-20	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10'		
	NJ-40x	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	17'-9"	15'-10'		
11-7/8"	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"		
11-1/0	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10'		
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"		
	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"		
	NI-40x	21'-5"	19'-10"	18'-11"	17'-5"	22'-1"	20'-6"	19'-6"	17'-5"		
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"		
14"	N1-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"		19'-9"		
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"		20'-0"		
	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"		20'-7"		
	N!-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"		20'-6"		
16"	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"		21'-6"		
10	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"		
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"		

			Mid-Spa	n Blocking		] Mid-s	pan Blocking ar	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	re Spacing				re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NJ-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	Ni-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
9-1/2"	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	NI-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
	Ni-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
11-7/8"	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11-7/0	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"	21'-3"	19'-7"
	NI-40x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
14"	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21'-0"
	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
	N!-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
16"	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
10	NI-80	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
	NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"

- 1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.
- 4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012.
- 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Live Load = 40 psf, Dead Load = 15 psf Simple Spans, L/480 Deflection Limit 5/8" OSB G&N Sheathing







			В	are		1	1/2" Gyp:	sum Ceiling	
Depth	Series		On Cent	re Spacing			· On Cent	re Spacing	
		12"	16"	19.2"	24"	12"	16"	re Spacing  19.2"  14'-2"  15'-1"  15'-3"  15'-10"  16'-0"  16'-11"  17'-11"  17'-11"  18'-5"  18'-6"  18'-9"  19'-8"  20'-6"  20'-6"  21'-5"  21'-9"	24"
	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	14'-2"	N/A
	N1-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
9-1/2"	NI-60	. 15'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	. 17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"		N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"		N/A
	N1-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
11-7/8"	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
11-//0	NJ-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"		N/A
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"		N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"		N/A
16"	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"		N/A
10	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"		N/A
	NI-90x	24'-8"	22'-9"	21'-9"		N/A         16'-8"         15'-9"         15'-3"           N/A         17'-5"         16'-5"         15'-1           N/A         17'-8"         16'-7"         16'-0"           N/A         17'-6"         16'-6"         16'-0           N/A         18'-9"         17'-6"         16'-1           N/A         19'-0"         17'-8"         17'-1           N/A         20'-1"         18'-7"         17'-9           N/A         20'-4"         18'-10"         17'-1           N/A         20'-10"         19'-3"         18'-5'           N/A         20'-10"         19'-4"         18'-6'           N/A         21'-2"         19'-7"         18'-9'           N/A         22'-3"         20'-7"         19'-8'           N/A         22'-7"         20'-11"         20'-0'           N/A         23'-3"         21'-6"         20'-6'           N/A         23'-3"         21'-5"         20'-6'           N/A         23'-1"         21'-5"         20'-6'           N/A         23'-1"         21'-5"         21'-5"		N/A	

			Mid-Spa	n Blocking		Mid-S	pan Blocking ar	nd 1/2" Gypsum	Ceiling
Depth	Series		On Cent	re Spacing			On Cent	re Spacing	
		12°	16"	19.2"	24"	12"	16"	19.2" 14'-5" 16'-1" 16'-4" 17'-7" 17'-8" 17'-3" 19'-2" 19'-6" 20'-5" 20'-8" 21'-2" 21'-7" 21'-11" 22'-11" 23'-2" 24'-2" 25'-2"	24*
	NI-20	16'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-40x	17'-11"	. 16'-11"	16'-1"	N/A	18'-5"	17'~1"	16'-1"	N/A
9-1/2"	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	15'-4"	N/A
	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"		N/A
	NI-20	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
11-7/8"	NI-60	21'-4"	19'-9"	18'-11"	N/A	21 -11	20'-4"	19'-6"	N/A
11-7/0	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	พเ-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	N1-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"		N/A
	NI-40x	23'-7"	21'-11"	20'-11"	N/A	24'-3"	22'-7"		N/A
	NI-60	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"		N/A
	08-I <i>I</i> 4	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	The second secon	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"		N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-2"	N/A
16"	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
10	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"		N/A
	N1-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	19.2" 14'-5" 16'-1" 16'-4" 17'-7" 17'-8" 17'-3" 19'-2" 19'-5" 20'-5" 20'-8" 21'-2" 21'-7" 21'-11" 22'-11" 23'-9" 24'-2" 25'-2"	N/A

- 1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate Ilmit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
   Minimum bearing length shall be 1-3/4 inches for the end bearings.
- 4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012.
- 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Live Load = 40 psf, Dead Load = 15 psf Simple Spans, L/480 Deflection Limit 3/4" OSB G&N Sheathing







				are		ľ	1/2" Gyp	sum Ceiling			
Depth	Series		On Cent	re Spacing		On Centre Spacing					
		12"	16"	19.2"	24"	12"	16"	19.2"	24 <sup>n</sup>		
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"		
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"		
9-1/2"	Ni-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"		
*•	NI-70	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"		
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"		
	Ní-20	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"		
	NI-40x	1 <del>9</del> '-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"		
11-7/8"	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"		
11-770	N!-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"		
	NI-80	21'-1"	19'-5"	18'-6"	17'-7''	21'-7"	20'-0"	19'-0"	18'-0"		
	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"		
	NI-40x	21'-5"	19'-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18'-7"		
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"		
14"	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"		
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"		
	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"		
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"		
16"	N!-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"		
10	Ní-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"		
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"		

			Mid-Spa	n Blocking		Mid-S	pan Blocking a	nd 1/2" Gypsum	Ceiling
Depth	Series			re Spacing				re Spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NJ-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	Ni-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
9-1/2"	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10'
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
11-7/8"	NJ-60	22'-1"	20'-7"	19'-7"	18 <sup>1</sup> -4"	22'-8"	20'-10"	19'-8"	18'-4"
11-7/0	Ni-70	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
	NI-80	23'-7"	21'-11"	20'-11"	19'-9"	24'-1"	22'-6"	21'-5"	20'-0"
	NI-90x	24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"	22'-0"	20'-9"
	N1-40x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
14	NI-70	26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	23'-9"	22'-4"
	NI-80	26'-6"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90x	27'-3"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"
16"	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"
7.0	NI-80	29'-1"	27'-0"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90x	29'-11"	27'-10"	26'-6"	25'-0"	30'-6"	28'-5"	. 27'-2"	25'-8"

<sup>1.</sup> Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.

<sup>2.</sup> Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum celling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum celling attached to joists.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>4.</sup> Bearing stiffeners are not required when 1-joists are used with the spans and spacings given in this table, except as required for hangers.

<sup>5.</sup> This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012.

<sup>6.</sup> Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Live Load = 40 psf, Dead Load = 30 psf Simple Spans, L/480 Deflection Limit 5/8" OSB G&N Sheathing







Depth	Series	Bare On Centre Spacing				1/2" Gypsum Ceiling On Centre Spacing			
		9-1/2"	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"
NI-40x	16'-1"		15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	Ń/A
NI-60	16'-3"		15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
NI-70	17'-1"		16'-1"	15'-6"	N/A	17'-5"	16'-5"		N/A
NI-80	17'-3"		16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	
11-7/8"	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
	N1-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17-1 17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-9 17'-11"	N/A
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"		N/A
14"	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-5" 18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"		N/A
	Ni-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	18'-9"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	19'-8"	N/A
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"		20'-0"	N/A
16"	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-6" 21'-5"	20'-6"	N/A
	N!-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"		20'-6"	N/A
	NI-80	23'-11"	22'-1"	21'-1"	N/A		22'-5"	21'-5"	N/A
	NI-90x	24'-8"	22'-9"	21'-9"		24'-8"	22'-10"	21'-9"	N/A
				<u> </u>	N/A	25'-4"	23'-5"	22'-4"	N/A

Depth	Series	Mid-Span Blocking On Centre Spacing				Mid-Span Blocking and 1/2" Gypsum Ceiling			
						On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	
	NI-40x	17'-9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"	15'-1"	N/A
	Ni-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15'-4"	N/A
	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"		N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	17'-10 18'-3"	16'-9"	N/A
11-7/8"	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	17'-1"	N/A
	N(-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"		16'-0"	N/A
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-3"	17'-9"	N/A
	NJ-70	22'-6"	20'-10"	19'-11"			19'-8"	18'-5"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-0"	21'-4"	20'-0"	N/A
	NI-90x	23'-4"	21'-8"	20-1	N/A	23'-3"	21'-7"	20'-5"	N/A
14"	NI-40x	23'-7"	21'-5"		N/A	23'-10"	22'-2"	21'-2"	N/A
	NJ-60	24'-0"		19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A
	NI-80 NI-70		22'-3"	21′-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
		25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
16"	N1-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A
	N!-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	
	N1-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A N/A

- 1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.
- 4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012.
- 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.